

APRIL 1958

FLOW

THE FIRST MAGAZINE OF MATERIAL HANDLING

NATIONAL SAFETY COUNCIL

AWARD OF HONOR



HANDLING
in 9 of the
NATION'S
SAFEST
PLANTS

... The original publication of the material handling industry
... preferred by more than 40,000 identified buyers of material
handling, packaging and shipping equipment and supplies.



AN INDUSTRIAL PUBLISHING CORPORATION MAGAZINE

NOELTING

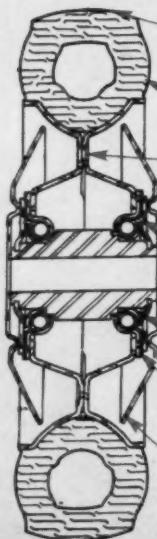
400GS SERIES

Faultless Caster



*Neoprene Grease Seal Around
Upper Raceway and Dust Cup
Around Lower Raceway of
Swivel Bearings Retain
Grease Indefinitely*

Semi-Pneumatic Grease-Sealed Thread Guard Wheel



1. SMOOTH, CUSHION RUBBER TREAD . . . is crowned to permit easy swiveling at all times, plus giving excellent floor protection.
2. THICK CUSHION RUBBER TIRE . . . absorbs shocks when rolling over curbs, driveways, etc.
3. PRECISION-FORMED WHEEL SIDE PLATES . . . are formed from one piece of steel, permanently assembled by welding in three places . . . will not separate.
4. TWO SELF-CONTAINED, BALL BEARING RACEWAYS IN HUB . . . one on each side, are deeply hardened and pre-lubricated at the factory, for quiet, easy rolling.
5. UNIT BEARING ASSEMBLY IN HUB . . . is permanently assembled in wheel by welding. Perfect alignment of wheel is assured.
6. NEOPRENE SEALS . . . keep grease in and dirt and water out of wheel bearings, resulting in less maintenance and added service life.
7. FORMED STEEL THREAD GUARDS . . . keep string, dirt, water, and other foreign matter out of bearings and away from axle.

A GREASE SEALED CASTER ESPECIALLY DESIGNED FOR

- Grocery-Supermarket Carts
- Light Duty Industrial and
- Commercial Equipment

WHERE WATER, DIRT OR STRING IS ENCOUNTERED DURING INDOOR OR OUTDOOR USE

Swivel assembly includes two full rows of hardened ball bearings rolling in two large diameter deeply formed and hardened raceways for easy swiveling. Neoprene seal is vulcanized to upper bearing raceway. A formed steel cup protects lower thrust raceway. Lubricant is kept in and water, dust and other foreign matter kept out. Lower ball race is securely anchored and locked to the king pin—horn swivels freely between the two ball races. The semi-pneumatic rubber tired wheels, available in this series caster cushion jolts encountered when rolling over doorways, driveways, etc., assuring a smooth ride at all times. Thus, with this combination of quality design and construction features Faultless adds another to its list of products serving business and industry. For complete information see your Faultless Industrial Distributor or write for Bulletin No. 7157.



Faultless Caster Corporation

Detroit, Greenfield, S. C., Grand Rapids, High Point, Indianapolis,
Los Angeles, New Orleans, New York, Philadelphia, Portland,



Look for this sign;
there's a Goodyear dealer
near you.

Stop!

**DON'T THROW
AWAY THAT WHEEL!**

We'll retread it
in just 2 weeks!



Watch "Goodyear Theater" on TV—every other Monday 9:30 P.M., E.S.T.

YOU DON'T have to throw the wheel on the scrap heap, just because the tread has worn down. In just two weeks or less we can mold on a factory-proved Goodyear retread—and your wheel will roll like new.

The whole moneysaving process—available for nearly all sizes—is accomplished in three easy steps:

1. Ready the wheel—or wheels—for shipment. Remove bearings, races, washers and grease fittings—then turn wheels over to your Goodyear dealer for shipment to Goodyear Akron.

2. We burn off the old rubber, shot blast the wheels and inspect them thoroughly. Next, we carefully weigh out the new rubber for each wheel and mold it on per factory specifications.

3. We ship your reconditioned wheels back to the Goodyear dealer, for delivery to you.

New wheels, with or without bearings, are available to replace chipped or broken wheels. Call your Goodyear Dealer, or write:

Goodyear, Industrial Tire Sales,
Akron 16, Ohio.

Use the Right Tire for the Job—
Buy and Specify

GOOD YEAR

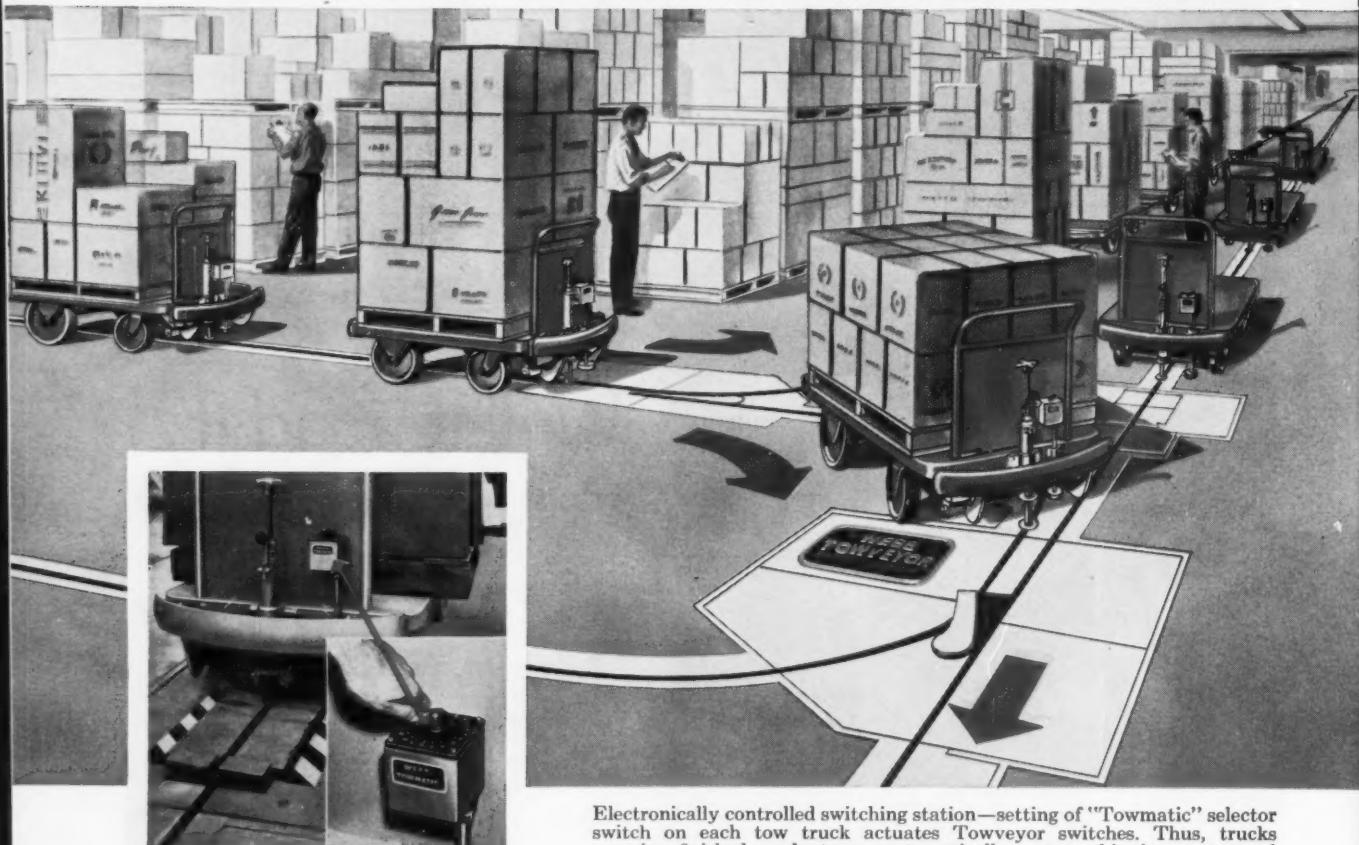


INDUSTRIAL TIRES

Circle No. 356 on Reader Service Card for more information

APRIL, 1958

FIRST Electronically Controlled Towveyor . . .



Electronically controlled switching station—setting of "Towmatic" selector switch on each tow truck actuates Towveyor switches. Thus, trucks carrying finished products are automatically sent to shipping center and all other trucks are diverted to Towveyor at right.

Slashes Handling Costs . . . Prevents Traffic Snarls . . . Speeds Production

Johnson & Johnson, in designing their "Plant of Tomorrow", gave major consideration to efficient materials handling. Required was a handling system providing: lower handling costs—smoother traffic flow—increased production—reduced manual handling—integration of materials movement in and between three buildings—automatic delivery of a variety of materials to many locations.

After intensive study of a number of handling methods, J & J selected a Webb electronically controlled Towveyor as their basic materials handling system . . . it filled their requirements.

In fact, all materials handling, in the two manufacturing buildings and shipping, centers around this 3624 foot Towveyor. To provide electronic control for movement

of materials, each tow truck is equipped with a 19-station Towmatic selector switch—each station representing a different location in the plant. Thus, by simply flipping Towmatic switch to desired station and lowering tow pin into Towveyor slot, the tow truck is started on its way—electronics take over and materials automatically travel to their destinations.

Two other Towveyors located in shipping center wind through order-picking areas to provide at-hand-convenience for personnel filling customer orders. Tow-trucks carrying filled orders are placed on these Towveyors for unescorted travel to loading dock. By automatically performing the multiple materials handling operations required in manufacturing, warehousing and shipping, Towveyors at J & J reduce manual handling—lower operating costs—speed production.



JERVIS B. WEBB COMPANY
SPECIALISTS IN CUSTOM CONVEYOR SYSTEMS
8935 ALPINE AVENUE • DETROIT 4, MICHIGAN

FACTORIES: DETROIT • LOS ANGELES • ATLANTA • HAMILTON, ONT.,
CANADA • ENGLAND • FRANCE • BELGIUM • AUSTRALIA

For a detailed description of the Johnson & Johnson Towveyor system and its many benefits, write for 12-page Bulletin 28.

Webb in-floor Towveyor and overhead Tow-Conveyor systems are completely described and illustrated in Catalog 157—write for your free copy.



reader's guide to

for April 1958



COVER: The Award of Honor of the National Safety Council has been selected as the background for this month's cover. It is the award which was presented to the nine companies which are the subjects of a series of safety articles starting on 67.

FEATURES

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A special section which will help you improve safety in your plant
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Mechanization of handling has won safety awards for Dow Chemical Co.
- 70 **SAFETY—11,000,000 HOURS WORTH**
Western Electric's Safety Team has won six straight safety awards
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Three safety committees and employee education turn accidents away
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Careful planning has resulted in no disabling accidents
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Uranium plant has accident record below National average
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They're planning something for everybody at the Western Material Handling Show

PACKAGING/SHIPPING

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How to decide whether or not you can use returnable containers
- 94 **THE CASE FOR NON-RETURNABLE CONTAINERS**
Maybe non-returnable containers are the answer for your needs
- 96 **HOW RETURNABLE CONTAINERS CUT COSTS**
Many types shown in use . . . ideas which could be useful to you
- 100 **HOW NON-RETURNABLE CONTAINERS CUT COSTS**
Again, the other side of the story—each type can save you money
- 102 **CONVEYORS AUTOMATE CASE GLUING**
Packaging and shipping idea of the month



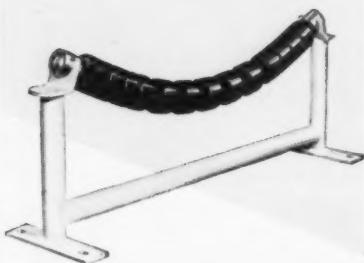
BPA

readers' guide continues on next page

copyright 1958 by The Industrial Publishing Corporation

We've been asked...

"What is the Joy Limberoller Belt Conveyor Idler?"



JOY LIMBERROLLER BELT CONVEYOR IDLER



Radically different from all other idlers, the Limberoller is a flexible steel cable suspended between two bearings . . . to which neoprene discs are molded . . . forming a single roll idler which turns on its own axis. This imparts a flexing action which is self-cleaning . . . prevents material buildup, a source of trouble with conventional idlers.



Supports the belt throughout its entire width . . . doesn't have the unsupported gaps left between the rolls like conventional idlers. Increases belt life 20% and more. Materials don't "bump along" from idler to idler, either.



Two bearings, instead of six. They are up out of the dirt zone, not hiding down under the belt. Joy has never replaced a single bearing due to normal failure. Heard enough? There's more . . . get the whole story from *Joy Manufacturing Company, Oliver Building, Pittsburgh 22, Pa.* In Canada: *Joy Manufacturing Company (Canada) Limited, Galt, Ont.*

Write for free bulletin 160 C-42

WSW L6531-160C

JOY ...EQUIPMENT FOR
ALL INDUSTRY

Circle 367 on Reader Service Card

FLOW

volume 13 number 7

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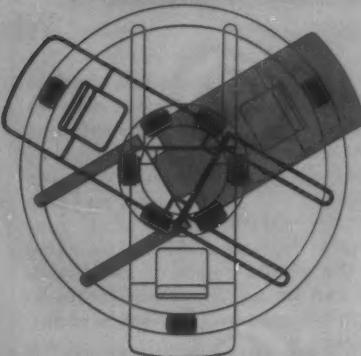
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NEXT MONTH IN FLOW the manufacturers of material handling, packaging and shipping equipment will have the floor. They will tell you about their latest developments in equipment and supplies. To make it more useful to you, the issue will be divided into 16 big sections. Watch for it . . . FLOW's New Products Issue.

NEW

LEWIS-SHEPARD® MODEL H SPACEMASTER ELECTRIC FORK LIFTS

Capacities up to 2500 lbs.



TIGHT SPOT MANEUVERABILITY
Turns in its own length!



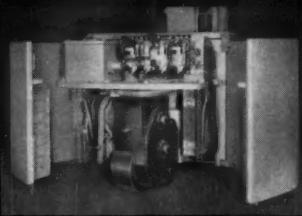
HIGH PRESSURE HYDRAULIC SYSTEM

Lewis-Shepard has pioneered in research and development of hydraulic components. Hydraulic system used in the new Model H offers extra efficiency. Lift speeds are faster, smoother with no increase in current draw.



FOOT CONTROLS FREE HANDS

All Model H controls are foot-operated, except Forward and Reverse lever on steering post. Operator's hands are free to maneuver truck safely, quickly — a big advantage when inching and spotting loads.



WIDE-OPEN SERVICE ACCESSIBILITY

Simply lift cover and open panel doors. All operating parts are exposed and in easy-to-reach spots for quick servicing. Absolutely no under-truck adjustments. No grease points, either, with L-S "Lubricated-for-Life" design!

NEW! HEAVY DUTY plus MANEUVERABILITY

The all-new L-S Model H has exclusive rear wheel drive . . . turns in a 56 1/4" radius . . . right angle stacks pallet loads in 9-foot aisles! It easily maneuvers inside highway trailers, freightcars, or elevators. Low head room allows operator to clear 6' high doors.

NEW! MODERN ELECTRICAL DESIGN

Featuring smooth dynamic braking—easy, fast

reversing, snappy acceleration with 24-volt operation for improved ramp performance.

NEW! RUGGED I-BEAM MAST

Specially designed and manufactured by Lewis-Shepard for rugged fork lift service. Its tapered I-Beam construction provides superior resistance to torsion and side thrust. Unitized construction of mast carriage gives smooth mast operation.

... AND many other important features. Send coupon for New Model H Circular 37.



The "MASTER" Line

LEWIS-SHEPARD® The COMPLETE line of materials handling equipment



LEWIS-SHEPARD PRODUCTS, INC.

134 Walnut Street
Watertown 72, Mass.

Please send me:

L-S Circular #37 on New Model H
 L-S MASTER Line Catalog

NAME.....

TITLE.....

COMPANY.....

ADDRESS.....

CITY.....

STATE.....

Circle No. 372 on Reader Service Card for more information



New "Positioned Inventory" Principle Reduces Your Inventory Investment

Rapistan® Flow Rack™ Puts Parts Where Needed, When Needed, Reduces Costs

You can save up to one-third of your inventory investment in materials and goods in process with this new materials handling principle of work-positioned inventory at the point of use. With the present cost of carrying inventory often running as high as 25% of the value of the goods, this savings of capital can be an important factor in improving your company's profit.

"Work-positioned inventory" is simply the principle of storing raw materials, components or sub-assemblies as close and as convenient as possible to the areas in which they are used. Rapistan Flow Rack makes this idea practical for a wide range of uses.

The possibilities for space and labor savings are large when working inventory is "positioned at the point of use."

1. Space required for the plant's Central Stores is reduced, releasing valuable floor area for more productive uses. Gains of one-half and more of the central stores area often are possible.
2. Materials handling is reduced, making possible a great saving in time and



A RAPISTAN FLOW RACK accumulator receives incoming stocks of assembly parts directly from Receiving. No stop-over in central stores for these parts — no double handling. Flow Rack, stocked from the rear, assures "FIFO" inventory control.

manpower. Double handling can be eliminated, when materials go from Receiving directly to Flow Rack at the "point of use."

"Rack" bulletin describing specific uses of this idea.

Circle No. 10 on Reader Service Card.

3. The required volume of inventory usually is reduced, since purchasing can be accurately geared to shorter time segments, and more exactly controlled.
4. Inventory control is improved. Flow Rack, used to hold materials in live storage at the point of use, provides an automatic "first in — first out" control system. "FIFO" inventory control is very expensive in most warehouses, not using Flow Rack.

To learn more about how this materials handling technique can improve your company's profit, ask your local Rapistan handling specialist, or write for our "Flow



ELECTRIC MOTORS ARE STORED by the pallet-load in this Flow Rack, "work-positioning" a large inventory in minimum space. Motors are easily removed, simply by extending the pallet a short distance beyond the face of the rack.

Rapistan Roller Conveyor Now Features Snap-In Interchangeable Rollers

Spring-loaded snap-in rollers make new Rapistan gravity roller conveyor exceptionally versatile. Rollers are easy to re-space in the frame while the conveyor is installed — can be removed or inserted without bolts or wrenches.

Rapistan now offers interchangeable-roller conveyor in many types and sizes of 1.9" roller: aluminum, galvanized or enameled steel, for medium and heavy duty. New reduced prices make it your best gravity roller conveyor value.

For full information, circle No. 14 on the Reader Service Card.

Here's A Novel Use For Rapistan Overhead Conveyor

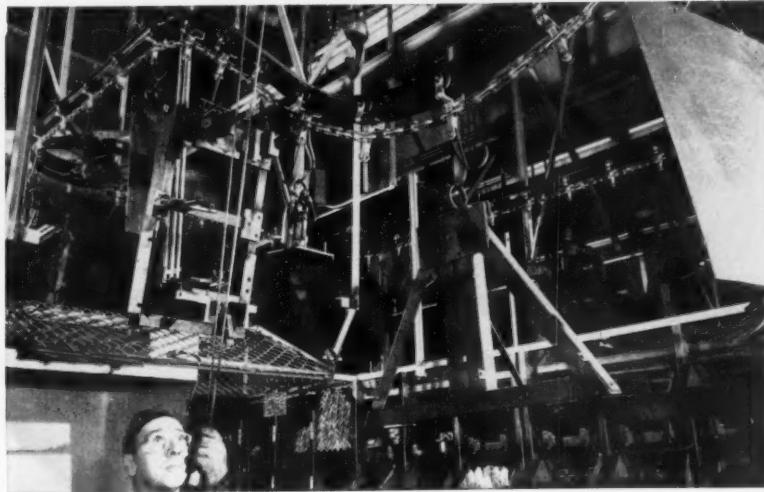
Production Tools Stored Overhead Save Floor Space

Rapistan Overhead Trolley Conveyor serves a new and unique purpose right in our own plant, resulting in improved efficiency and a space saving of 50% in our welding department.

Welding jigs and fixtures are

now stored overhead, where they are quickly accessible and safe from damage. All the floor space formerly used for storing jigs has been reclaimed for production. Quality is improved, since welders can easily find the correct jig to use for even the smallest runs.

For more information on this idea, **circle No. 11 on the Reader Service Card.**



RAPISTAN OVERHEAD CONVEYOR solves the problem of finding the right welding tool in minimum time. All jigs are numbered and stored according to a master index. The conveyor delivers any required tool to a dip point for easy removal from the line.

"M B" Demountable Wheel Sets New Performance Record

Rapistan Metal-Backed Tires Outwear Competitive Makes

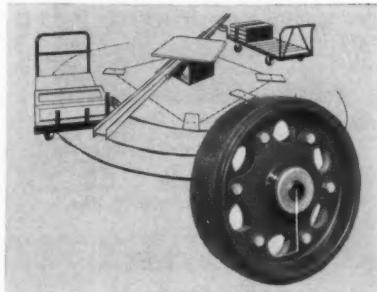
Everybody wins in some performance tests — but not in the scientific wheel-wear tests conducted by engineers at The Rapids-Standard Co., Inc.

Rapistan's new industrial MB (metal-backed) demountable rubber-tired wheel recently was tested against four other makes under identical conditions. Competitive wheel "A" failed at 33.84 miles. Wheel "B" failed at 65.80 miles. "C" failed at 132.54 miles and "D" at 671.16 miles. But Rapistan's MB Wheel ran 1,320 miles with no sign of failure, out-lasting its nearest rival 2 to 1. Documented results of the test are available on request.

If you use industrial wheels and casters, it will pay you to find out about the champion performer in

the field — Rapistan MB demountable wheels.

Circle No. 12 on Reader Service Card.



RUGGED, long-wearing Rapistan MB Wheels come in 6", 8" and 10" diameters, 2" and 2 1/2" tread widths. Rubber tire change is quick and easy with exclusive "star" construction.

"Controlled Flow" Improves All Materials Handling

"Controlled Flow" is important to all users of materials handling equipment, because it is the means of saving unnecessary expense. Its application prevents conveyor jam-ups, jacking on straight conveyor runs, excessive breakage, shifting and slippage on the conveyor, that can reduce the effectiveness of ordinary systems.



Bert Woldring

"Controlled Flow" is simply the smooth, safe and economical movement of goods from one point to another. In a Rapistan system, it's the result of many years of internal experiment, and experience on thousands of conveyor systems.

Rapistan links standard, pre-engineered units of gravity and power belt conveyor into a basic flow system. To this we add engineering know-how in selection of the correct conveyor pitch, proper width of track, length of gravity runs, placement of guard rails, limit switches, spur curves, electric eyes and other controls.

Then, this system is coordinated with existing lift trucks, chutes, racks — all the other elements of mechanical handling. The result is a system that controls the flow of goods efficiently and safely, at a modest investment.

Bert Woldring



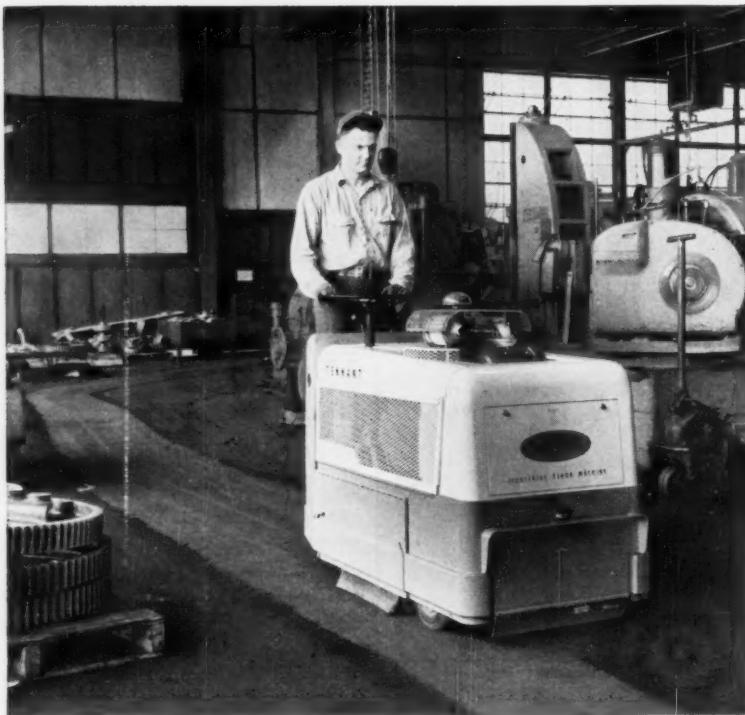
Write today for a check list of important considerations in planning an efficient, economical handling system.

Circle No. 13 on Reader Service Card.

Rapistan®

new ideas in materials handling

The RAPIDS-STANDARD CO., Inc.
332 Rapistan Bldg.
Grand Rapids 2, Michigan



1 man, on a **TENNANT "L"** Floor Machine...

removes 140 lbs. of grease-caked dirt in 22½ minutes

As he rides down this aisle on a **TENNANT "L"** Floor Machine, this man is doing a job you'd think was "impossible."

With no effort except to steer and use simple hydraulic controls, he's cleaning a 21" path . . . smoothly shaving off bumpy traffic-packed dirt at the rate of 140 lbs. in 22½ minutes.

That's a ton in less than 5½ hours!

CLEANS FLOOR IN 1 OPERATION

You see the results at the right. In one operation the machine's 1600 rpm cleaning cylinder pulverizes hard-packed dirt—then picks it up.

Provides a superbly clean floor at a rate 6 men couldn't equal by hand—a hard, dry, good-trucking surface that wheels can grip without wasted power or lost traction.

WRITE for illustrated bulletin, photos, performance data, traction-test results, etc. Smaller walk-behind machine available for congested areas.



BEFORE: Dirt build-up 1/16" to 1/8" thick wastes power, grabs wheels. Truck needs 28-lb. pull to keep moving.



AFTER: Cleaned by **TENNANT "L"**, floor is smooth and dry. Lets truck move with 9-lb. pull—1/3 the effort needed before.

G. H. **TENNANT** COMPANY
707 D N. Lilac Drive, Minneapolis 22, Minn.

FLOOR MACHINES

SPECIALIZED MAINTENANCE EQUIPMENT

POWER SWEEPERS • FLOOR MACHINES • SCARIFIERS • ROOF SCRAPERS • CONCRETE ROUTERS

Circle No. 420 on Reader Service Card for more information

LETTERS to the EDITOR

A Friendly Word

To FLOW:

Each issue of your publication is received with considerable interest by the several staff members of our organization. We feel your coverage of the various facets of the material handling industry is excellent.

Nelson Severinghaus
Calcium Products Division
The Georgia Marble Company
Tate, Georgia

Coverage is one of the special things we like to be complimented on at FLOW. Thanks to Reader Severinghaus for his kind words.

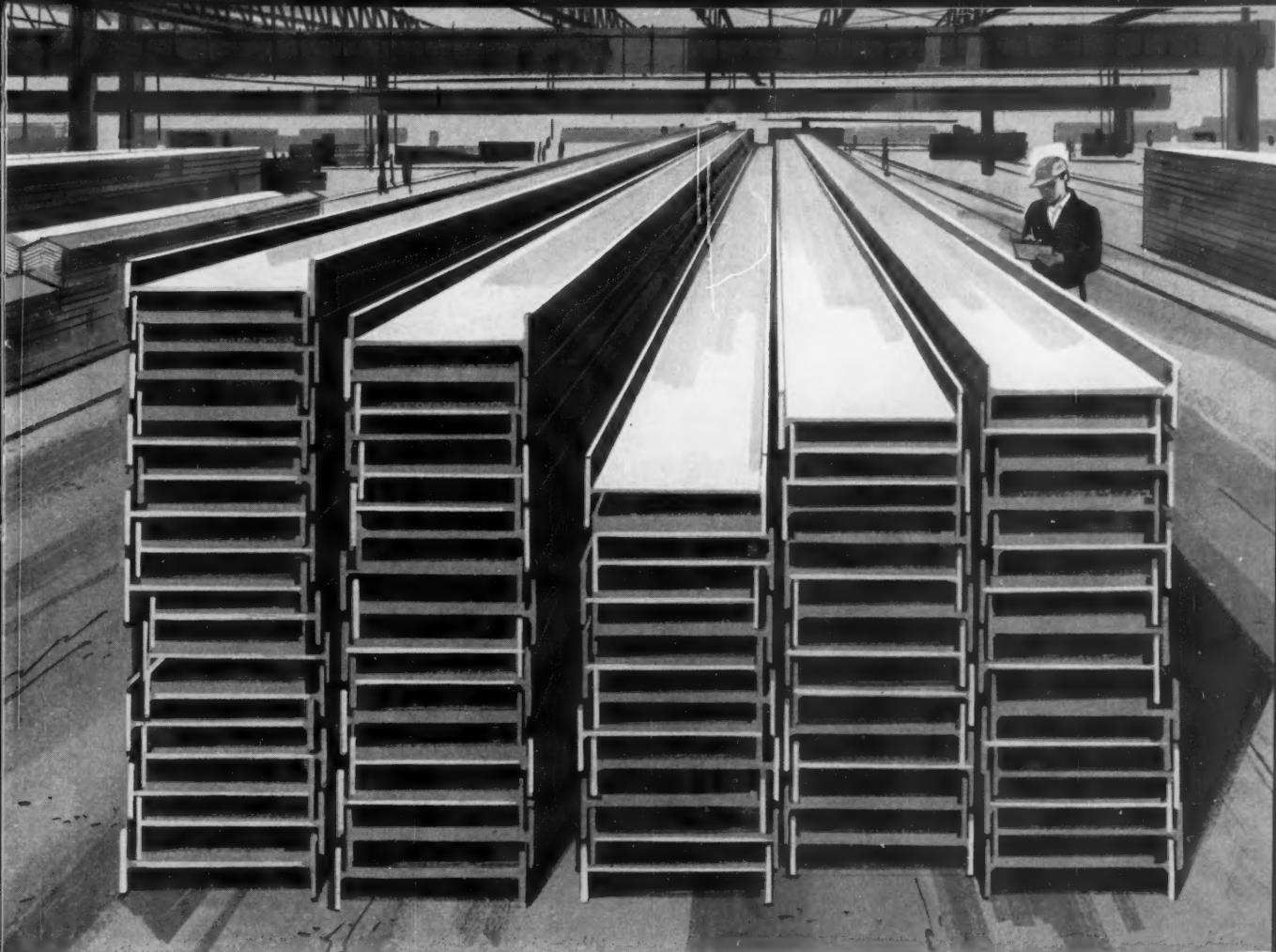
Defends Straddle Carrier

To FLOW:

Mr. Michael Linsay writes (FLOW, February) that he read your article "Straddle Carriers" (FLOW, September) "with great interest," but apparently he missed the point of the article entirely. The straddle carrier principle is sound, as evidenced by the thousands of machines working in the field. There are a good many people saving many thousands of dollars a year with straddle carriers that would give Mr. Linsay an argument as to whether they are a material handling machine or not.

. . . Webster defines "handle" thus: "To touch, hold, take up, move, or otherwise affect with the hand." He defines "carry" as: "To move by vehicle in the hands, to transport." By these definitions, fork trucks, pallet trucks, straddle carriers, and side-loading trucks are *materials carrying devices*. . . . Here are some of the features of the straddle carrier principle:

1) Self-loading in about five seconds, self-unloading in about



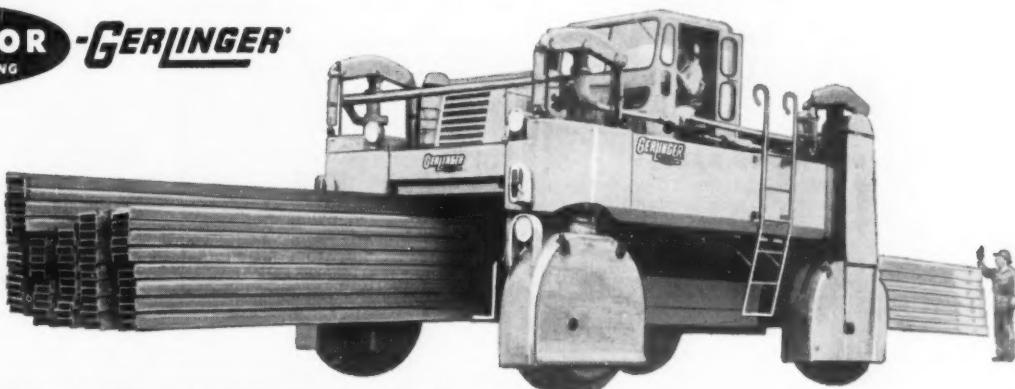
ONE LOAD...One Man...One Trip with a Gerlinger!

Leaders for 39 years in building
Fork Lift Trucks, Tractors and Carriers

Moving 30-ton loads 2000 feet a minute may seem like a "dream" of the future but it's happening right now! It's being done by giant Gerlinger straddle carriers making numerous trips per day and moving *millions of tons a year* for an Eastern steelmill. It's also being done by heavy-duty Gerlinger lift trucks . . . transporting mammoth beams, bulky logs, tremendous pallets of products by the hundreds . . . in one quick, cost-saving trip! Are your increasing demands requiring bigger loads and faster handling? Look to Towmotor-Gerlinger—where "tomorrow's plans" are no longer blueprints, but realities. The answer is *here*.



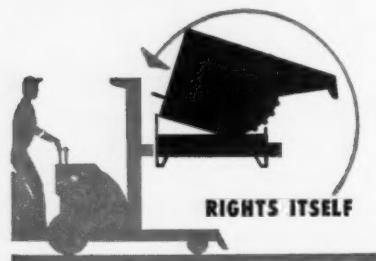
Towmotor-Gerlinger
meets Tomorrow's
Handling
Needs Today!



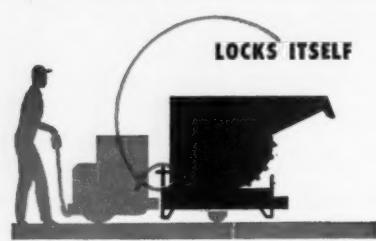
*Gerlinger Carrier Co., Dallas, Oregon, is a subsidiary of Towmotor Corporation, Cleveland 10, Ohio



DUMPS ITSELF



RIGHTS ITSELF



LOCKS ITSELF

Cuts hand unloading costs 50% or more

Figure it out yourself. Compare the cost of this one-man semi-automatic operation with the time and labor involved in hand-unloading. The answer is obvious. Hundreds of leading industries have proved it . . . and are using thousands of Roura Self-Dumping Hoppers for handling wet or dry, hot or cold bulky materials.

Roura builds 'em rugged. They're made of extra heavy gauge metal with sturdy welded joints to stand up under the terrific knocks and bangs of rough handling. Fit any standard fork or platform lift truck. Also available mounted on live skids—casters with malleable or rubber tired wheels. Sizes from $\frac{1}{2}$ to 2 cubic yards.

Let Roura help you cut costs.

ROURA
Self-Dumping
HOPPER

WANT MORE FACTS?

We'll give you full details . . . without obligation . . . if you'll attach this coupon to your letterhead . . . sign your name . . . and mail to . . .

ROURA IRON WORKS, INC.
1411 Woodland Ave., Detroit 11, Michigan

Circle 412 on Reader Service Card

10

LETTERS

Continued

three. 2) Rated capacity roughly twice the weight of the machine. 3) Load is evenly distributed on all four wheels. 4) Relatively short wheelbase and four-wheel steer provide maximum maneuverability. 5) Travels at nearly conventional truck speeds. 6) Driver is located above load for maximum visibility. 7) Since load is carried on bolsters, driver is not dependent on dunnage, blocks, etc., and can place load in any open area without leaving driver's seat. 8) Cost per ton of capacity is less than any other material handling vehicle.

. . . The straddle carrier is part of a material handling team that will contribute many thousands of dollars in savings in handling costs.

J. W. Ross
Clark Equipment Company
Battle Creek, Michigan

Prospective Fork Truck Buyer:

To FLOW:

We are interested in purchasing a 5 ton capacity, propane or electric fork truck for setting dies and handling pallet loads. The 5 ton trucks that I have seen are too large for our operation. They require from 12 to 18 feet turning radius.

I would appreciate it if you can advise of a manufacturer that produces a 5 ton truck that requires a 10 foot or less turning radius.

John Binder
Federal Tool Corporation
Chicago, Illinois

Mr. Binder's request has been made known to a number of fork truck manufacturers. Information and help should be forthcoming.

FLOW is always glad to hear from its readers and we'd appreciate your comments—both pro and con. Address your letters to: The Editor, FLOW MAGAZINE, 812 Huron Road, Cleveland 15, Ohio.

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engineered
for long service

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CASTERS AND WHEELS



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RUST-PROOFED . . . by zinc plating, Darnell Casters give longer, care-free life wherever water, steam and corroding chemicals are freely used.

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STRING GUARDS . . . Even though string and revealings may wind around the hub, these string guards insure easy rolling at all times.

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FLOW



The
drive is
in the
drum!

BAUER

Self-driven

HEAD PULLEY

Motor, gears, all moving parts integrally designed in a compact, efficient, one-piece conveyor drive, to give you all these advantages:

- No space wasted on overhead V-belt set-ups. No maintenance catwalks.
- No power lost, because there's no transfer of power from external drives.
- No time spent on V-belt maintenance. Completely enclosed motor with sealed bearings cuts all service to a minimum.
- No layout problems — easy installation.

SAFE

Bauer Self-driven Head Pulley eliminates all hazards due to exposed chains, sprockets, etc., and eliminates the need for space-consuming and time-consuming safety measures.

PROVED

From $\frac{1}{4}$ to 15 H.P. in all standard widths, Bauer Self-driven Head Pulleys are moving raw materials, products of light and heavy industries, agricultural produce and packaged goods throughout the world. Service and parts are readily available in the U.S.

Ask your conveyor system manufacturer, or write for literature or dealership information to:

BAUER GEAR MOTORS

Totally enclosed • Fan-cooled • High torque rotor
• Foot or flange mounting •
1/50 to 30 H.P.

FACTORY REPRESENTATIVE

Georg von Opel Corporation

15 William Street, New York 5, N. Y. 1 BOWLING GREEN 9-5690-1

At the National Materials Handling Exposition Booth #1538, Cleveland, June 9th-12th.

Circle No. 459 on Reader Service Card for more information

This new TRANSISTORIZED 2-way radio...

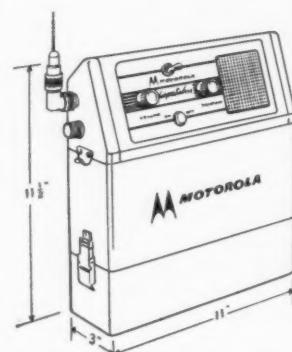
FITS ANY VEHICLE

Here is the first 2-way radio specifically designed for materials handling equipment.

Motorola's Industrial DISPATCHER radio is the *smallest* mobile 2-way radio available. By replacing most tubes with transistors, and using plated circuitry, this radio has been made so compact it can be mounted easily on any of your industrial vehicles.

Here's a new transistorized 2-way radio that minimizes current drain . . . requires as little as $\frac{1}{6}$ the current formerly required. The DISPATCHER radio requires only 5 to 10 ampere-hours for a full 8-hour shift . . . a negligible amount that won't be missed even by electric powered vehicles. And for electric vehicles where voltage varies widely throughout the day, this radio includes a small transistorized voltage regulator that automatically maintains peak radio performance through all voltage fluctuations.

Put this rugged radio to work for you in your materials handling operations. No matter what kind of industrial vehicle you have—gasoline, LP gas, diesel or electric powered—there's a Motorola DISPATCHER radio for you. Get all the information, and you'll see why an investment in the DISPATCHER radio soon pays for itself in the time it saves. Write today.



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TRANSISTORIZED
dispatcher
RADIOPHONE

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Marvelous
Manifestation of
Matchless Muscularity

HUMAN DUMB-BELL USED IN HERCULEAN ONE-HAND LIFT

Amazing:

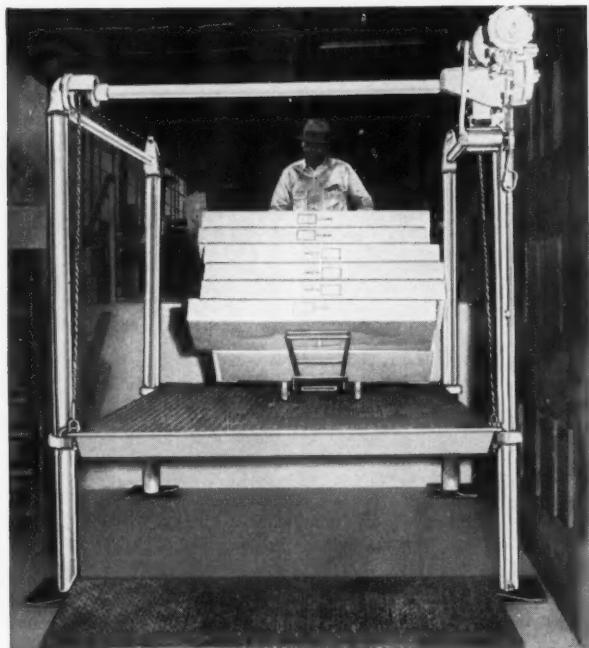


Colossal!

This Strong Man
Stunt was a
Vaudeville Act
50 Years Ago

Today, any worker is a Hercules with a Globe Lift

Heavy Lifting, Quick Loading, Easy Portability
are features of GLOBE ELECTRO-LOADER



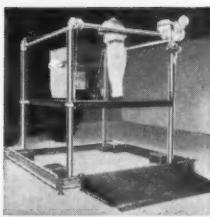
With one hand on the control of a Globe Electro-Loader, a workman can lift, load or unload heavy cargo quickly and without manual effort. Because no special foundation is required, this lift can be installed anywhere . . . in shipping and receiving departments . . . beside conveyors and machines . . . alongside of raised floors . . . indoors or outside . . . upper floors . . . temporary locations . . . wherever rugged materials handling tasks are performed. Easy to install, can be quickly relocated.

For rigid permanent use, the Electro-Loader can be bolt-anchored to the floor or, it can be equipped with casters for fast movement anywhere in the plant. Platform is of checkered steel plate reinforced with steel beams to stand up under heavy impact loads of hand or power-operated trucks. A wedge-shaped ramp provides a gentle upward slope for easy roll-over or, the lift may be recessed for flush platform loading.

Lifting power for the Electro-Loader is supplied by a weather-protected electric motor operating a simple cable mechanism. Adjustable automatic top and bottom limit stops, a slack cable shut off, centrifugal governor and safety brake assure accurate control, smooth operation and complete safety throughout the entire lifting cycle.

GLOBE
Electro-LOADER

PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.



GLOBE HOIST COMPANY
East Mermaid Lane at Queen Street
Philadelphia 18, Pennsylvania

F-915-EL

Please send me detailed information on Globe
Electro-LOADER for . . .
(describe application intended)

NAME

COMPANY

ADDRESS

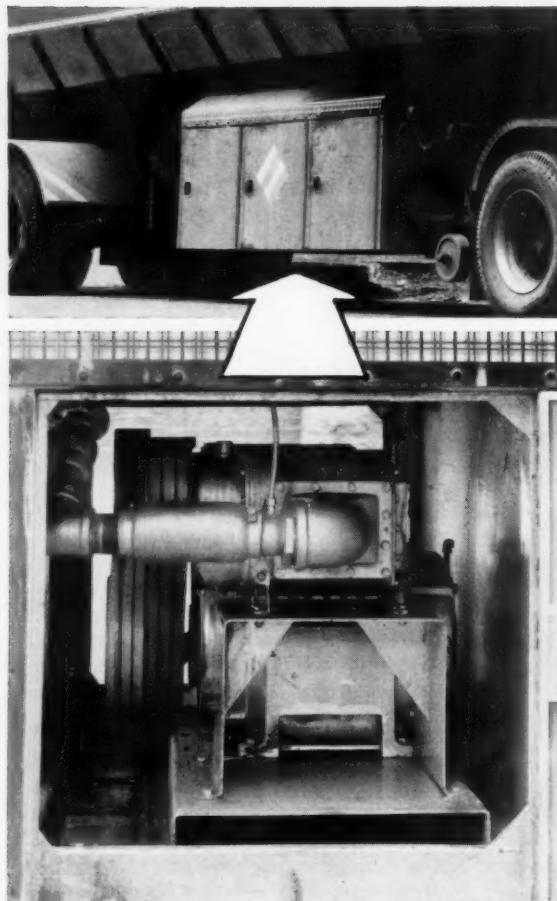
CITY STATE

GLOBE HOIST COMPANY

East Mermaid Lane at Queen Street
Philadelphia 18, Pennsylvania

Circle No. 354 on Reader Service Card for more information

Another Example of How to Save Time and Money When Handling Powdery and Granular Materials



COMPACT UNDER-TRAILER TWO-STAGE BLOWER UNIT UNLOADS FLOUR TRUCK IN 1 1/4 HOURS

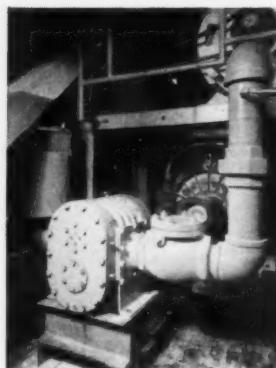
The compactness of pneumatic conveying installations using M-D Blowers is illustrated by this under-trailer two-stage unit, which includes a rotary air valve and a 30 hp. motor. The combined weight of the two M-D Blowers is only 325 lbs. compared with the 1300 lbs. of the two blowers used in a previous truck installation. Capable of operating at pressures up to 12 psig, the first-stage blower handles 225 cfm at 7 psig with an operating speed of 2100 rpm. The second-stage blower discharges at 18 psig. The trailer can be unloaded in about 1 1/4 hours.

Eckhart Milling Company Incorporates Pneumatic Conveying Into Existing System, Using Miehle-Dexter High-Pressure, Small-Cube Blowers

Converting manual and mechanical methods of handling powdery and granular materials to a pneumatic system need not involve major revisions in plant layout.

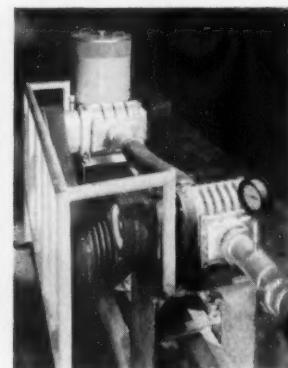
Good examples are the time- and money-saving pneumatic handling installations at Eckhart Milling Co., Chicago. Designed and installed by Eckhart at the instigation of J. N. Chisam, Vice President of Production, the conversion employs five high-pressure, small-cube, lightweight Miehle-Dexter 3-Lobe Rotary Positive Blowers. The exclusive design features of the M-D Blowers enabled Mr. Chisam to plan the installation in a minimum of space without majorly disrupting the existing plant layout.

A variety of materials can be conveyed by M-D Blowers. The complete Eckhart story may suggest a money-saving pneumatic conveying installation in your plant. May we send it to you?



LOADING TIME REDUCED 58%

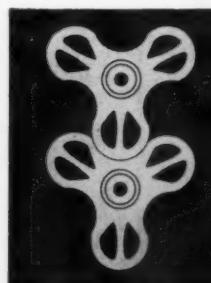
The flour truck is now loaded pneumatically in 50 minutes. Formerly 2 hours were required with a screw conveyor. The single-stage M-D Blower, operating at 1900 rpm, delivers 320 cfm at 9 psig.



BRAN BIN EMPTIED IN 30 MIN.

Bran is pneumatically loaded into freight cars by this two-stage M-D Blower unit similar to the truck installation. Bins are now emptied in 30 minutes. Formerly 2 men were required on each of 3 shifts.

**m
d**
**iehle
exter**



**3-LOBE
ROTARY POSITIVE
BLOWERS**

Important advantages in pressure range, size, weight, cost, service!

MIEHLE-DEXTER DIVISION, RACINE, WIS. • TELEPHONE MELROSE 4-5521 • Another Product of MIEHLE-GOSS-DEXTER, Incorporated
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No damage to floors...



with durable

DISOWHEEL.

Here's how steel wheels, normally carrying extreme overloads, broke up concrete floors in a warehouse (as illustrated) . . . necessitating continual rearrangement of aisle and storage space and costly, time-consuming repairs. To eliminate such nuisance and expense, management chose Disowheel.® After six months' heavy duty: *no damage to concrete floors, no splintering of wooden surfaces!*

The secret of Disowheel's floor saving ability is in its *tire*. Made of Disogrin®—a polyurethane elastomer "strong as steel, resilient as rubber"—this tire *won't* mar floors . . . *resists abrasion* . . . lasts 4 to 10 times longer than rubber and most synthetics . . . *boosts load capacity* . . . *cuts power consumption* as much as 32%.

For full facts on how Disowheels *keep merchandise moving*, write us. And next time specify Disowheel—available in all standard sizes, to *keep your industrial trucks running at top efficiency!*

DISOGRIN
INDUSTRIES

510 SOUTH FULTON AVENUE, MOUNT VERNON, N.Y.

OFFICES: LOS ANGELES, BOSTON, CHICAGO, DETROIT, PITTSBURGH

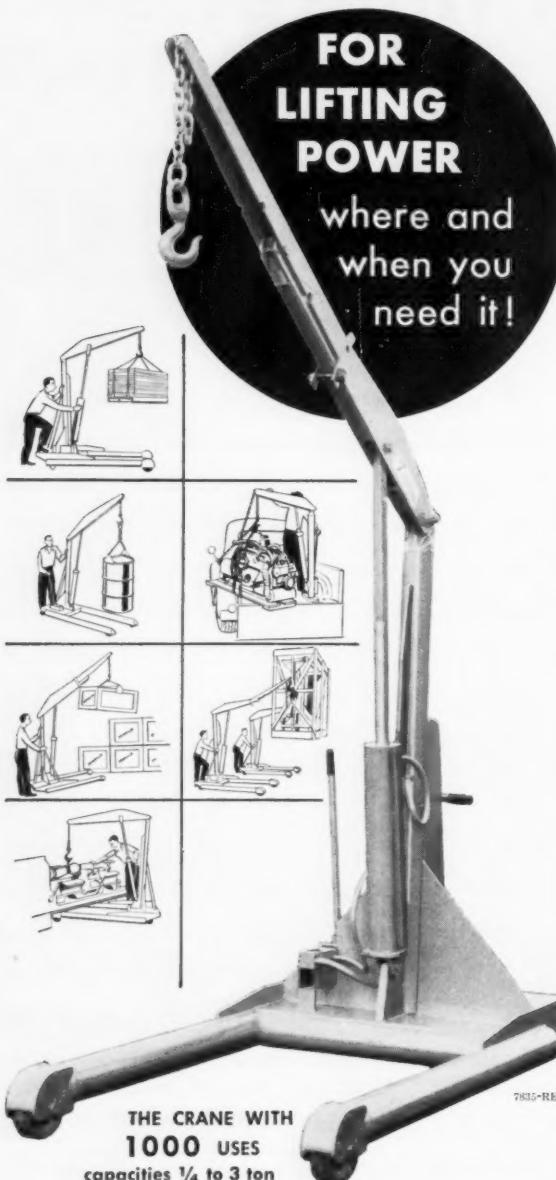
DISTRIBUTORS EVERYWHERE.

Circle No. 338 on Reader Service Card for more information

APRIL, 1958

15

SPECIFY **RUGER** CRANES



For versatile lifting power, specify RUGER Hydraulic Cranes. Here's a mobile crane that reaches in-under-over . . . unloads trucks . . . lifts motors, machinery and crates . . . lays pipe . . . tilts drums . . . mates dies . . . combines all your lifting and transporting problems into one operation. Variable speed hydraulic control is featured on both manual and electric models. Models available are floor . . . truck . . . convertible floor and truck . . . short mast . . . high mast . . . wide base . . . adjustable legs and retractable outrigger for side lifting. Send today for descriptive literature.

RUGER



RUGER EQUIPMENT, INC.

601 West Fourth Street
Uhrichsville, Ohio



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16

AMERICAN MATERIAL HANDLING SOCIETY

SHOW

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MAY 8-9-10, 1958

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Plan to attend the
technical conferences
too!

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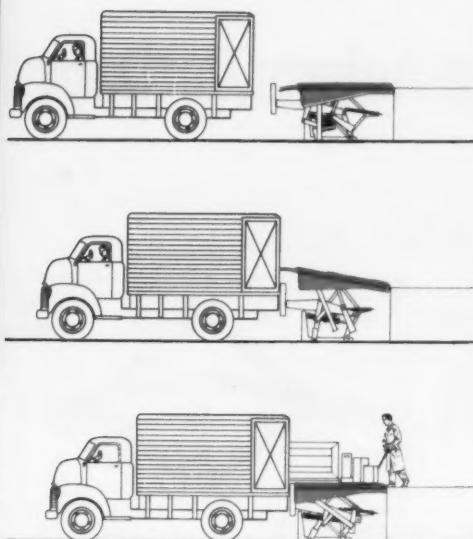
MATERIAL HANDLING

Circle No. 411 on Reader Service Card →

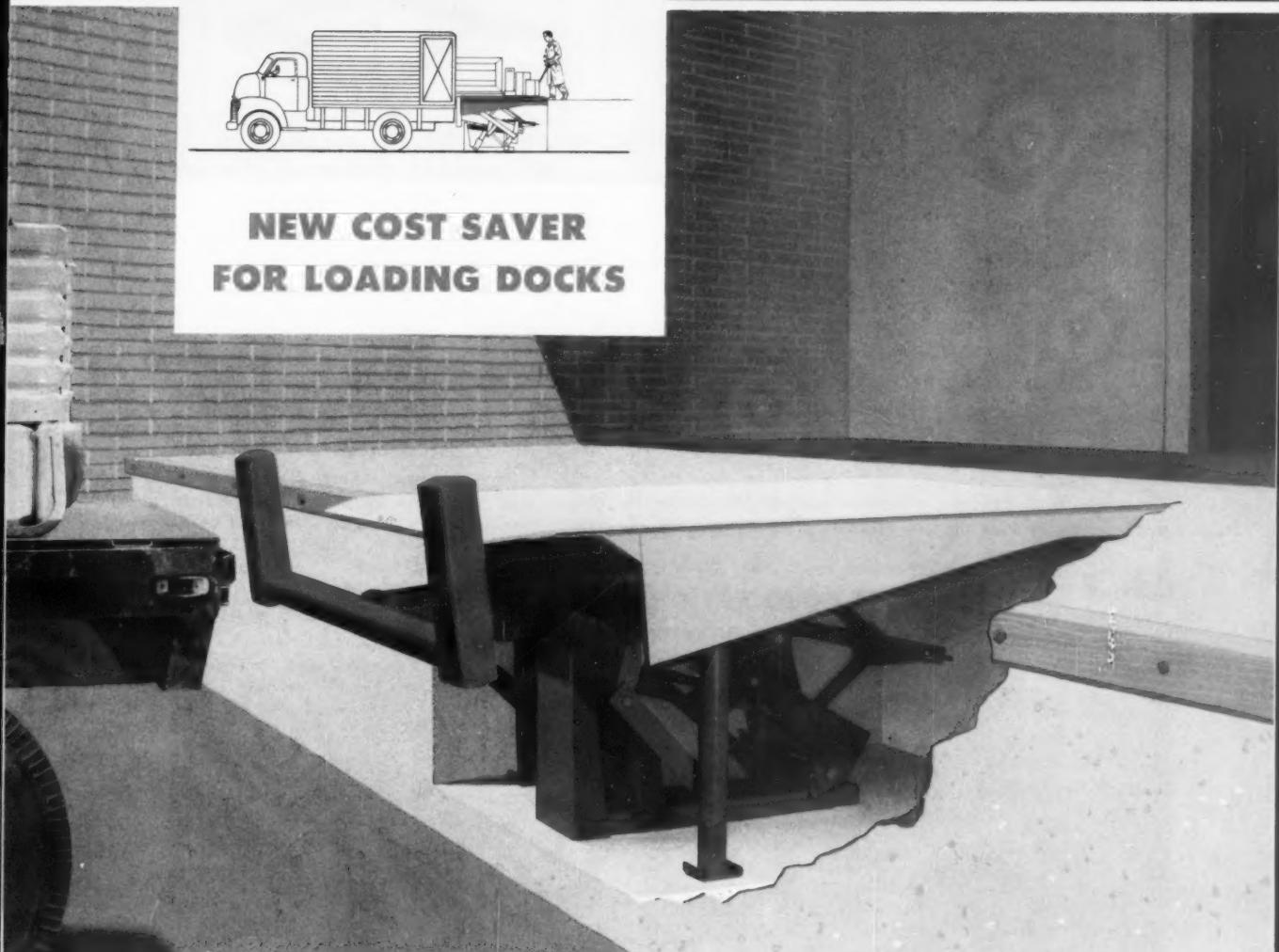
CATALOG NO. RE 404

Rotary®

AUTOMATIC DOCK RAMP



NEW COST SAVER FOR LOADING DOCKS



Truck-actuated, completely automatic operation



ROTARY LIFT COMPANY

Division of Dover Corporation

Memphis, Tenn.—Madison, Ind.—Chatham, Ontario



Rotary Automatic Dock Ramp

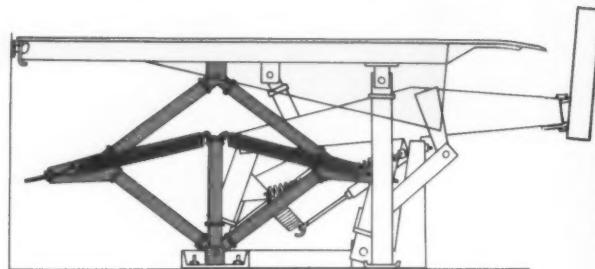
Exclusive Spring Compensator ... no counterweight

The Rotary Automatic Dock Ramp is completely different from all other mechanical ramps . . . because of a unique weight compensator. This controlled tension spring assembly compensates for platform weight so that horizontal pressure applied to the ramp bumpers causes the platform to glide up and down in a smooth and controlled movement. This patent-applied-for unit is simple in design and completely dependable.

Requires no counterweight — Rotary's spring compensator eliminates the need for an awkward, bulky counterweight . . . and makes possible big savings in cost. There is no expense of shipping a heavy factory-made counterweight, or of pouring a concrete counterweight on the job. The danger of over or under-counterweighting is eliminated. Rotary's compensator can be adjusted by simply tightening or loosening the adjustable tension control.

How it operates — The Rotary Automatic Dock Ramp is powered entirely by the action of a truck backing into position at the loading dock.

As the truck contacts the rugged bumper assembly and pushes against it, the ramp platform rises to clear the truck bed. At full height, it hesitates momentarily as the truck continues backing into position, then lowers until



- Recoil type spring compensator shown here provides maximum smoothness of operation. (Frame removed in this drawing to show mechanism.)

the platform lip rests on the truck bed.

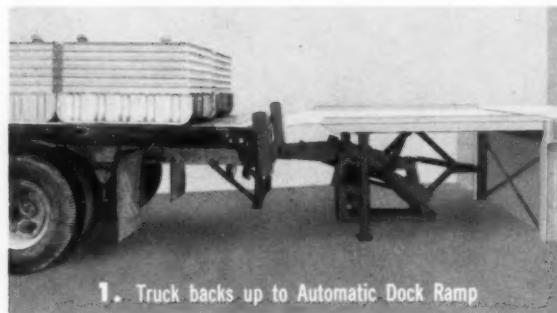
In this position, the Rotary Automatic Dock Ramp provides the perfect bridge between dock and carrier . . . increasing dock efficiency and safety.

When the truck pulls away, the platform rises automatically, then lowers and is positioned level with the loading dock with cross-traffic supports in place. The bumper assembly returns to the extended position, ready to actuate the platform again.

The Rotary Automatic Dock Ramp is a safe, rugged device that will take all the punishment of heaviest power truck dock traffic and give years of top service.

ROTARY AUTOMATIC DOCK RAMP IN ACTION...

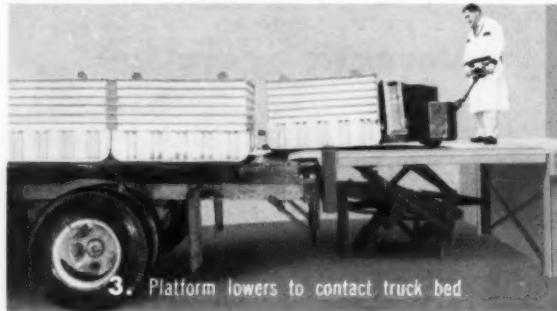
(frame removed to show movement of operating assembly)



1. Truck backs up to Automatic Dock Ramp



2. Bumpers are depressed . . . platform rises



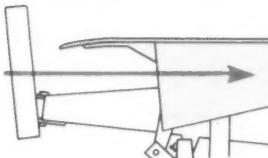
3. Platform lowers to contact truck bed



4. Truck leaves, ramp locks level with dock

speeds traffic, saves labor and increases safety

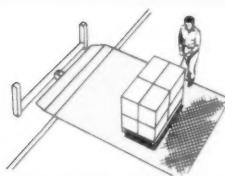
Completely **AUTOMATIC** Operation



AUTOMATIC "straight-line" bumper action

When a truck backs against Rotary's Automatic Dock Ramp bumpers the bumper assembly moves in a perfectly horizontal line. Since bumpers do not pivot in an arc, they cannot hang under

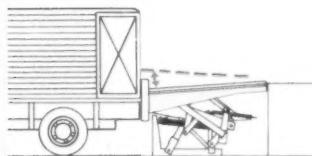
ledges or projections at rear of trucks to cause damage. The ramp is designed so that shock loads are transmitted to the concrete structure, protecting the ramp mechanism from damage.



AUTOMATIC cross traffic safety lock

When a truck pulls away from the Rotary Automatic Dock Ramp the ramp platform automatically returns to dock level . . . and locks in that position to support dock cross traffic. No "man-

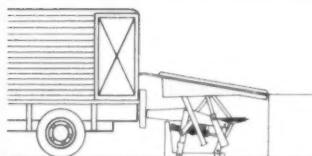
ual set" cross locks . . . no chance of someone forgetting to lock the platform. In addition, a limiting device prevents more than normal down travel of the platform under any circumstances.



AUTOMATIC floating action

Any truck spring deflection that occurs during loading or unloading is compensated for by an automatic floating

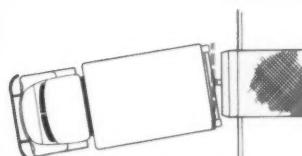
device. The platform moves up or down to adjust to truck bed level so that it is always in contact with the truck bed.



AUTOMATIC "moment of dwell" action

After the platform reaches full rise, when actuated by a truck backing into position, it hesitates before descending to truck bed level. This "moment of dwell" is provided to allow irregular

projections on the rear of the truck to pass under the outer edge of the platform so that platform lip will be in positive contact with truck bed when it lowers into position.



AUTOMATIC self-aligning bumper

This exclusive feature automatically corrects for "out-of-square" vehicles. When a truck, as will often happen, backs into the dock from an angle, the bumper pivots to line up parallel with

the truck bed. Pushing action of the truck is transmitted into the ramp mechanism on a straight line so that operating assembly continues to function smoothly without "racking" or binding.

Want More Facts?
USE THIS POSTAGE-
PAID CARD

FILL IN - TEAR OUT

Drop in mail today

YES!

I want more information on the Rotary Automatic Dock Ramp. Please send to:

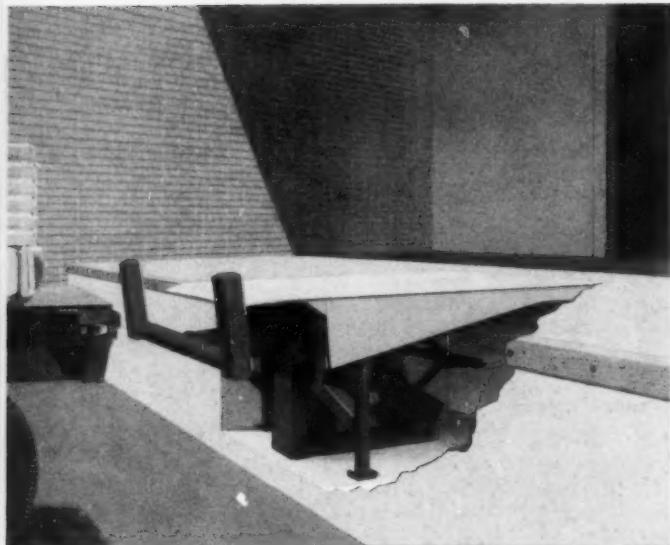
Name _____

Title _____

Company _____

Address _____

Rotary Automatic Dock Ramps are available in standard models for:



RECESSED INSTALLATION



FRONT-OF-DOCK INSTALLATION

No operating costs . . . no maintenance costs

The Rotary Automatic Dock Ramp uses no power other than that supplied by a highway carrier as it backs into position at the dock. There are no electrical connections, no piping, no cables or gears . . . nothing to require maintenance or be affected by extremes of temperature or weather. All load-bearing points are equipped with permanently pre-lubricated bearings.

Heavy-duty construction throughout—Rotary Automatic Dock Ramps illustrated above conform to Commercial Standard CS202-56. Every element has been designed and built for rugged strength and functional operation. The platform is of non-skid steel plate with heavily reinforced bridge lip. Massive reinforcing members are welded in place and provide full rated load

capacity over any part of the platform. Framework is equally rugged, rigidly braced to withstand the shocks and jolts of years of hard service at any loading dock. Hinge for connecting the Rotary Automatic Dock Ramp to loading dock is of heavy structural channel.

Easily installed—No special pit construction is required for installing the Rotary Automatic Dock Ramp. A simple rectangular dock opening is all that is necessary for a recessed installation. Eight anchor bolts in the pit floor and the hinge channel at the top rear edge of pit secure the ramp in place. Front-of-dock installation is similar except that no pit is required and a steel frame is provided with the ramp. This frame encloses the mechanism and gives the entire ramp maximum stability.

Rotary Automatic Dock Ramps . . . available in several standard sizes and capacities



BUSINESS REPLY CARD
First Class Permit No. 520, Sec. 34.9 P.L.R. Memphis, Tenn.

Industrial Lift Division
ROTARY LIFT COMPANY
P. O. Box 2177-B
Memphis 2, Tenn.



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COMPLETE SPECIFICATIONS**

Rotary[®]

Rotary Lift Company
Division of Dover Corporation
Memphis, Tenn.

*First name in oil-hydraulic industrial lifting devices—
freight and passenger elevators—automotive lifts.*

**CALENDAR
of
EVENTS**

April 1-3

The American Society of Mechanical Engineers
Instruments and Regulators Conference
University of Delaware
Newark, Delaware

April 8

The Material Handling Institute
Spring Meeting, 1959 Exposition
Space Selection
Hotel Cleveland
Cleveland, Ohio

April 14-15

The American Society of Mechanical Engineers
Maintenance & Plant Engineering Conference
Penn-Sheraton Hotel
Pittsburgh, Pennsylvania

April 15-17

Welding Show
The American Welding Society
Kiel Auditorium
St. Louis, Mo.

April 14-17

Design Engineering Show
International Amphitheatre
Chicago, Illinois

April 18-19

American Institute of Industrial Engineers
Seattle Chapter
Fourth Annual Management Conference
University of Washington
Seattle, Washington

(Continued on next page)



**The truck with
"boarding house reach"**

INCREASES WAREHOUSE CAPACITY

... as much as 50%

RAYMOND

Reach-Fork
TRADE MARK

**3000 lb.
CAPACITY**

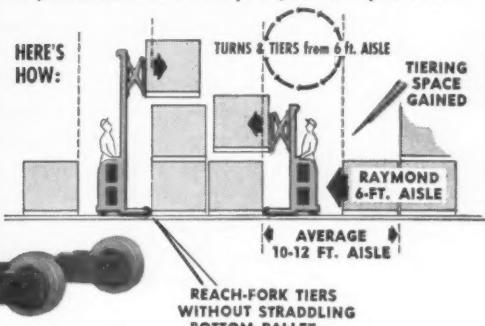


MODEL E3RT Reach-Fork
Electric Tiering Truck. Tele-
scopic model, 3,000 lb. cap.

WHY BUILD OR LEASE additional storage when there's space to be had right in your present warehouse? A Raymond Reach-Fork . . . the truck with "boarding-house reach" . . . may increase your warehouse capacity up to 50%.

THE REACH-FORK eliminates wasteful 10 to 12-ft. aisles . . . permits you to tier in space-saving 6-ft.* aisles. No special racks or pallets required because it operates from the aisle, without straddling bottom pallet. Its forks extend to pick up or deposit your load . . . retract in seconds.

IDEAL FOR LOADING and unloading. Stacks pallets closely on racks, in truck trailers, boxcars, bulk storage areas. Safe on elevators and low-capacity floors. Raymond power unit is highly accessible, opens up like a book for ease in servicing. Reach-Fork available in 2,000 or 3,000 lb. capacities . . . may be leased or purchased over 1 to 3-year periods if you wish.



*For exact aisle width, ask Raymond representative to survey your operation.

THE RAYMOND CORPORATION

3331 Madison St., Greene, N.Y.

Please send Bulletin on Raymond Reach-Fork. I am interested in:

- 2,000 lb. cap. Reach-Fork.
- 3,000 lb. cap. Reach-Fork.
- Have a representative call.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

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COUPON
TODAY**

Circle No. 406 on Reader Service Card for more information

APRIL, 1958

← Circle 411 on Reader Service Card



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install **NESTIER** **HOPPER RACKS**

You'll be amazed when you see our actual case studies. They prove beyond a doubt how Nestier Hopper Racks can reduce your assembly time. They eliminate re-handling of parts at work area. They provide a constant supply of readily accessible parts at workers' fingertips and permit rapid replacement of empty units. Nestier Hopper Racks can be filled at a central point thus giving more accurate inventory control.

To find out how Nestier can work for you mail this coupon today.

NESTIER CORPORATION
Subsidiary of THE METAL SPECIALTY CO.

Nestier Corporation
4519 Este Ave., Cincinnati 32, Ohio

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Please send me further information on Nestier small parts handling systems.

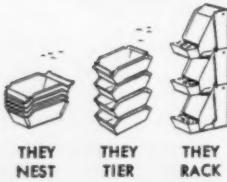
Name Title

Company

Address

City Zone State

NESTIER
FIRST IN SMALL PARTS HANDLING



Circle No. 396 on Reader Service Card for more information

CALENDAR OF EVENTS

Continued

April 23-24

Eastern Industrial Traffic League
Semi-Annual Meeting
Lord Baltimore Hotel
Baltimore, Maryland

May 2

Ohio State University College of
Engineering
Fifth Annual Conference for Engi-
neers and Architects
Ohio State University
Columbus, Ohio

May 1-8

American Society of Tool Engineers
26th Annual Meeting and Tool Show
Convention Center
Philadelphia, Pennsylvania

May 8-9

Illinois Institute of Technology In-
dustrial Engineering Department
Cost Reduction Conference
Illinois Institute of Technology
Chicago, Illinois

May 8-9

1958 Western Material Handling
Conference
American Material Handling Society,
Los Angeles Chapter
Great Western Exhibit Center
Los Angeles, California

May 7-17

The Mechanical Handling Exposition
Earl's Court
London, England

May 7-17

United States World Trade Fair
Coliseum
New York, N. Y.

May 12-15

Canadian Warehousemen's
Association
41st Annual Convention
Seigniory Club
Montebello, Quebec

May 26-30

American Management Association
National Packaging Exposition
Coliseum
New York, N. Y.

June 5-7

Material Handling Equipment Dis-
tributors Association
Annual Meeting
Chicago, Illinois

June 9-12

Material Handling Exposition
Cleveland Auditorium
Cleveland, Ohio

(Continued on page 24)

FLOW

Circle No. 460 on Reader Service Card





STEEL
GRIP

with a

Velvet
Touch

GRIPPER SLINGS®... safe, strong, flexible

Flexibility's the secret here. A Gripper Sling doesn't have to "bite" into stock to get a firm, non-slip grip. It wraps completely *around* even sharp edged loads. Gently cradles round, angular or irregular shapes on its broad bearing surface...lifts them, moves them, *holds* them safe—steady.

Gripper Slings are strong, too. Can't snap or tear suddenly. And, they're pretested, guaranteed, and can be made for loads of up to 100,000 lbs.

Seeing is believing. Why not ask your nearest Gripper Sling distributor for a demonstration, now? Gripper Slings are sold through Materials Handling, Safety Equipment and Mill Supply Distributors.



The Cambridge Wire Cloth Co.
Department W • Cambridge 4, Md.

Please send me your new Gripper Sling catalog and name of your distributor nearest me.

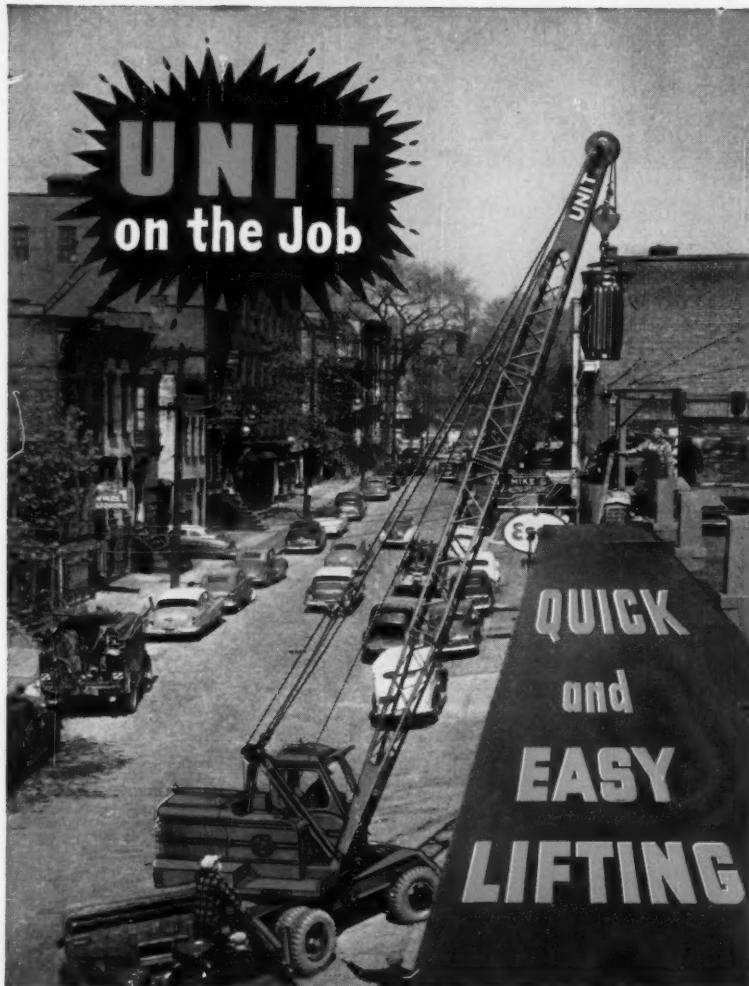
Name _____ Title _____

Company _____

Street _____

City _____ Zone _____ State _____





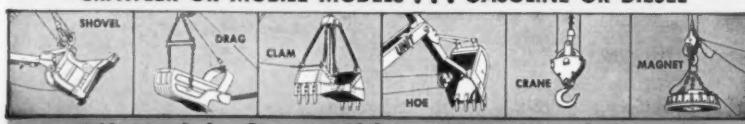
For SM-O-O-THER OPERATION you'll prefer UNIT 357 Mobile Crane equipped with TORQUE DRIVE. It's a machine that travels anywhere . . . works efficiently where space is limited. Controlled and operated by ONE man. Powered by ONE engine. Provides full-circle, fast-cycle operation. Easy hydraulic steering from within the FULL-VISION CAB. Promotes safety. For HIGH PRODUCTION and LOW MAINTENANCE get the facts regarding UNIT 357.

Write for Bulletin No. L-302.

UNIT CRANE & SHOVEL CORPORATION
6531 WEST BURNHAM STREET • MILWAUKEE 14, WISCONSIN, U.S.A.



1/2 or 3/4 YARD EXCAVATORS . . . CRANES UP TO 20 TONS CAPACITY.
CRAWLER OR MOBILE MODELS . . . GASOLINE OR DIESEL



All Models Convertible to ALL Attachments!

Circle No. 425 on Reader Service Card for more information

CALENDAR OF EVENTS

Continued

June 9-13

Fourth International Automation
Exposition
Coliseum
New York, N.Y.

June 9-13

Fourth Annual Automation Seminar
The Pennsylvania State University
University Park, Pennsylvania

June 15-28

Industrial Management Center
Material Handling Training Conference
Lake Placid Club
Essex County, New York

August 11-13

Western Packaging and Material
Handling Exposition
Civic Auditorium
San Francisco, Calif.

September 15-19

The Instrument Society of America
13th Annual Instrument Automation
Conference and Exhibit
Convention Hall
Philadelphia, Pa.

September 23-26

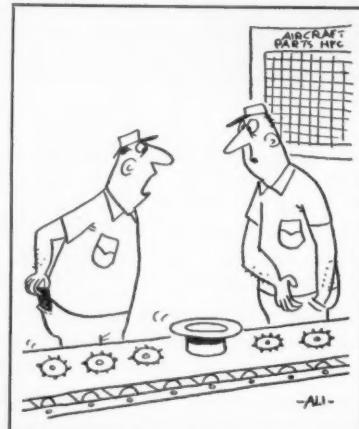
Association of Iron and Steel Engineers
Iron and Steel Exposition
Cleveland, Ohio

September 28-30

Associated Traffic Clubs of America
Annual Trade Show
San Francisco, Calif.

October 14-16

Society of Industrial Packaging and
Material Handling Engineers
National Industrial Packaging, Handling
and Shipping Exposition
The Coliseum
Chicago, Illinois



Wonder who's passing the hat for
what this time.

NEW PLATFORM STACKER...



CLASS H SILICONE INSULATED DRIVE MOTORS

These heat-defying motors are standard on both the 5000 and 6000 lb. models...optional on the 4000 lb. size. They are immune to overload and burnout failures even at 300° to 400°F.



In spite of its high reach, Model WLT goes easily into standard trucks and elevators with ample top clearance. Its extra-compact construction also permits easy maneuvering in narrow aisles and wherever space is at a premium.



This model's improved 3-step control, forward and reverse, permits inching with smoothness and precision never before possible. Permits accurate spotting to position loads.

Automatic Electric Industrial Trucks Cost Less to Own...Less to Operate

AUTOMATIC TRANSPORTATION COMPANY

Division of The Yale & Towne Manufacturing Company
141 West 87th Street, Dept. D-8, Chicago 20, Illinois

WORLD'S LARGEST EXCLUSIVE BUILDERS OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS



AUTOMATIC TRANSPORTATION COMPANY

Division of The Yale & Towne Manufacturing Company

141 West 87th Street, Dept. D-8, Chicago 20, Illinois

Please rush me complete specifications on Automatic Electric Transporter
...Model WLT.

Include details on lease and budget-purchase plans.

Your Name.....Title.....

Firm.....

Address.....

City & Zone.....State.....

Circle No. 318 on Reader Service Card



NEWS ABOUT SIPMHE

The Age of Research and Development

by John Mount President SIPMHE



SOME HISTORIANS are calling this the Atomic Age. Others refer to it as the Space Age.

I'm not a historian, but an engineer. Therefore I prefer to call this the Age of Research and Development.

Our newspapers and trade journals are constantly reminding us that our research and development is too slow. And our government, recognizing that this is true, has undertaken to do something about it. At least in the areas that affect the country's defense.

It sometimes takes up to five years to develop an idea, and another five years to put it into application. By that time the original idea may be out of date; something better may be coming along. So we put the idea on the shelf and start over again. We thus subscribe to a "third state" of research and development.

I have never been certain which is the right way to start out on a new project. One way might be to have an idea, then through research and development evaluate it, and finally come up with a finished product and a use for it. Perhaps that would be "state one." The opposite, or "state two," would be to build something, then decide through research and development how to use it. Actually, the two states are very similar, and should bring the same results.

The "third state," which I mentioned above, is the one we have to avoid. It is the state of confusion. It is one we can fall into all too easily. We don't plan ahead

where we are going, or how we are going to get there, or what we will do once there. We must know how to get into the act, and then be able to get into action.

In this respect, your affiliation with SIPMHE should be a big help to you. Associating with other packaging and material handling engineers is a good way of staying out of the state of confusion.

LA Hears Space Packaging Plans

One of the big problems confronting experts in space travel is packaging, according to Albert Olevitch, Chief of Packaging Laboratory, Wright Air Development Center, U. S. Air Force. Olevitch spoke before members of the Southern California Division on March 3, explaining plans for packaging in the Space Age.

He pointed out that food containers for rocket flights will probably be made of edible chemical films. Instead of throwing cans out, space travelers will eat them.

Rust will not be a problem in space, Olevitch said, because there is no moisture in the vacuum encountered there. However, this vacuum will create shock problems, since there will be no air cushion. To combat this, compressed air will probably be an important cushioning material, to soften the blow as materials are dropped on the moon and planets.

Dr. Gilbreth to Speak at Pacific Conference

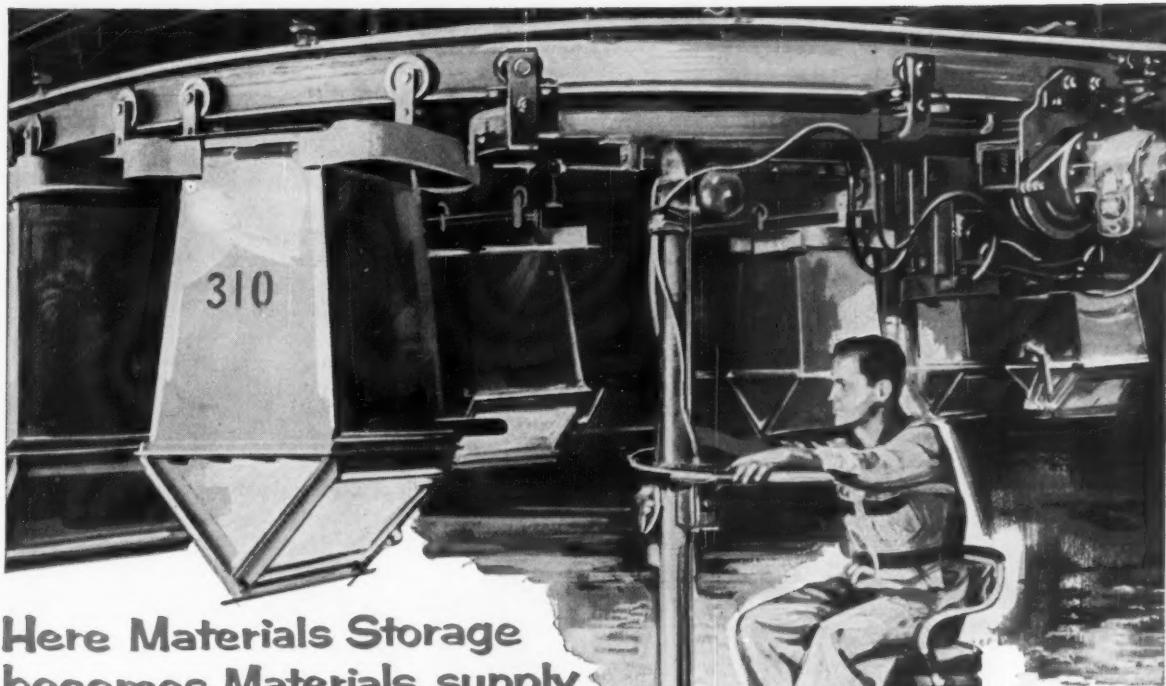
Dr. Lillian Moller Gilbreth will be the featured speaker at the 3rd annual Industrial Material Handling and Packaging Conference, to be held at the University of California, Berkeley, April 4 and 5.

Dr. Gilbreth is president of Gilbreth, Inc., Montclair, N. J. consulting management engineers. She will head a group of speakers on material handling, packaging, and transportation.

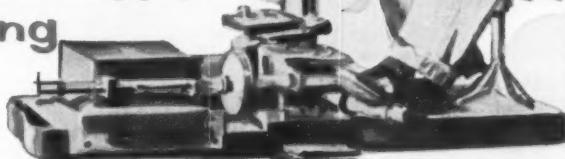
The Conference is co-sponsored by the Bay Area chapters of SIPMHE and AMHS, in cooperation with the University. Last year it was held at Stanford University. General chairman Robert O. Swendsen estimates that 400 people a day will attend the event.

BALTIMORE, MD.—Packaging regulations for railroads, parcel post and other shipping media are the subject of the March and April meetings of the Maryland Division. In a prior meeting, this Division held a packaging course on cushioning, with 22 members attending. Speakers at this course were F. C. Compton, Kieckhefer Container Co.; R. R. White, Wood Conversion Co.; and L. L. Barol, Leonard Barol Associates.

CLEVELAND, OHIO—Robert Davies, vice president of the Industrial Truck Division, Clark Equipment Co., will be the guest speaker at the April 14 meeting of the Northeast Ohio Division. Davies will address the group on the subject, "Past, Present and Future of Material Handling." He will also show Clark's new motion picture, "Moving Mountains." The meet-



Here Materials Storage becomes Materials supply without rehandling

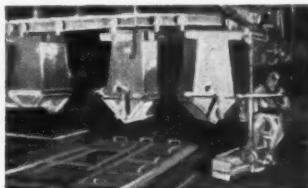


The Ohio Rubber Company, a Division of The Eagle-Picher Company, uses Louden Monorail throughout their molded rubber goods plant at Willoughby, Ohio. One application of unusual interest and cost-saving effectiveness is the Materials Storage Department. This department not only uses but really consists of 2,500 feet of Louden Monorail track. Materials stocked for processing are here stored in mobile hoppers suspended from the trackage in this 90' x 260' indoor "monorail railroad yard." Loaded hoppers forming "trains" are made up to supply various materials as required. A Louden MotoVeyor moves them to whatever place the materials are needed, hoppers are dumped automatically, and materials fall directly into mixers on the floor below.

This is just one of the many handling problems that have been solved by Louden engineers. No other handling system permits such a wide diversity of uses as does Monorail.



All loaded hoppers are weighed, marked as to contents and ticketed. This ticket provides both automatic inventory control and data for payroll computations.



Material is delivered directly from storage and automatically dumped into receiving bins feeding the mixers on the floor below.

Over one universal handling system, easily installed and easily enlarged as occasion demands, your product can be handled from raw material to the wrapped package without one interruption to the smooth, even flow of production. Handling never becomes rehandling with Monorail.

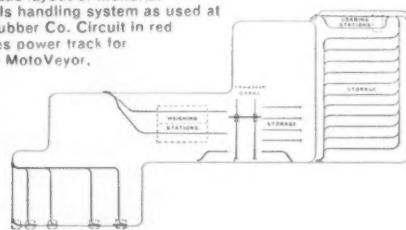
When you have a materials handling problem or plant problem involving lifting and transporting loads, call on Louden for suggestions. Louden's unparalleled experience and proven engineering leadership combined with Louden's broad line of equipment can save time and mistakes. Write or wire today.

THE LOUDEN MACHINERY COMPANY

8603 Broadway, Fairfield, Iowa

A Subsidiary of Mechanical Handling Systems Inc.

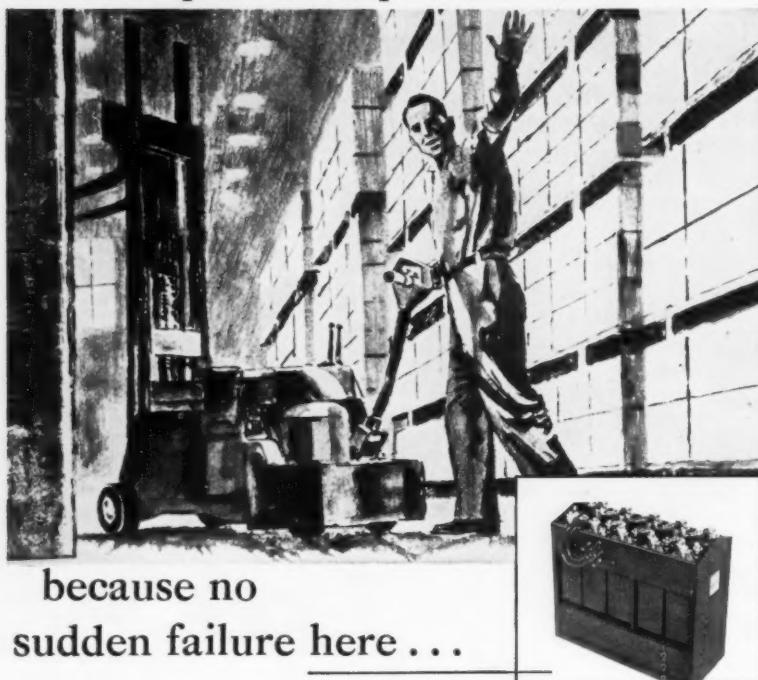
Schematic layout of Monorail materials handling system as used at Ohio Rubber Co. Circuit in red indicates power track for Louden MotoVeyor.



Get the latest information on the best in modern materials handling systems. Write today for your copy of "Economical Material Handling", a 52-page book full of how-to-do-it ideas. If you are interested in automation, ask for the new book on Louden Automatic Dispatch, "Automatic Materials Handling". With either you will receive the latest information on Louden Shok-Pruf Electrification, new safety in power for cranes and monorail systems.

SINCE 1867...THE FIRST NAME IN MATERIALS HANDLING
Circle No. 446 on Reader Service Card for more information

No part-time power here...



because no sudden failure here...

and now Edison offers 2 new "golden anniversary" protection extras

Now—in its golden anniversary year—the Edison storage battery brings you two new important contributions to battery performance and life. The famous Edison battery now incorporates a new active material for extra years of day-in, day-out truck availability. In addition, a new low-cost automatic charge control for maximum protection against charging abuses has been developed.

1. New active material in Edison storage batteries adds extra years of life to the world's longest lived battery—plus the ability to stand up to many of the abuses that knock out ordinary batteries when you need them most. On the job, Edison storage batteries with the new active material will cost less to operate, offer more than ever in terms of staying on the job year after year.

2. New automatic charge control assures a dependable low-cost way to battery economy by eliminating excessive overcharge. This job-tested unit—no bigger than your hand—takes all the guesswork out of charging. It can be mounted easily

on your present charging equipment, goes to work immediately, providing accurate charging. *Just set it and forget it!*

For new economy on your next battery see your Edison man—or write Edison Storage Battery Division, Thomas A. Edison Industries, West Orange, N.J. In Canada: International Equipment Co., Ltd., 90 Bates Road, Montreal, P.Q.



Celebrating 50 years of progress, production, and continuing research... a background that brings you the world's longest lived, most dependable storage battery—the battery that's built with tomorrow in mind.

Edison NICKEL-IRON
—ALKALINE **Storage Batteries**

...a product of Thomas A. Edison Industries of



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NEWS ABOUT SIPMHE

continued

ing will be at Hellreigle's Restaurant, Painesville, Ohio.

PHILADELPHIA, PA.—A tour of the International Division of Ford Motor Company was the highlight of a recent meeting of the Philadelphia Division. Members toured the plant at Pennsauken, N.J., then heard U. B. Miller, manager of parts and service activities, discuss packaging and handling problems encountered there.

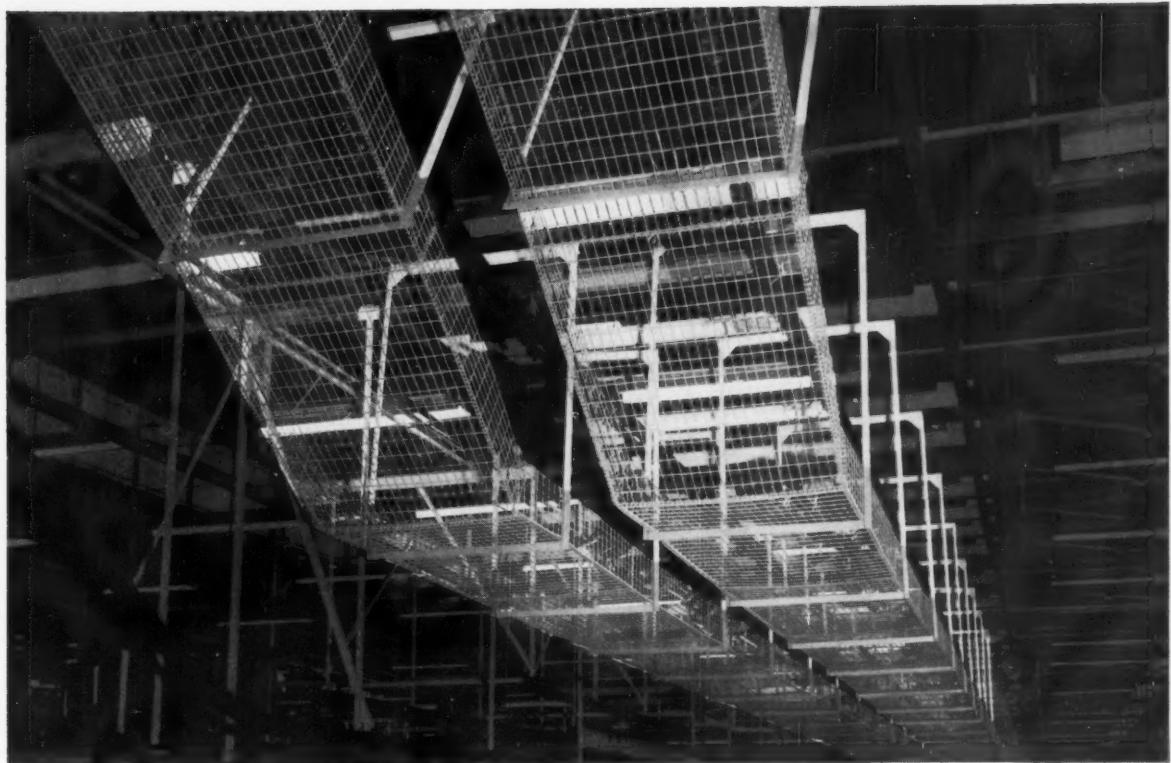
ST. PAUL, MINN.—"Vendors Table Top Display Night" is the theme of the April 2 meeting of the Minnesota Division. Various manufacturers will show their latest new products in packaging and material handling, and will answer questions.

KEARNEY, N.J.—A joint meeting of the Eastern Division of SIPMHE and the New Jersey Chapter of AMHS was held here March 19. The groups heard Joseph O'Hanlon, Radio Corporation of America, talk on various packaging subjects. These two groups are planning to co-sponsor their 4th Annual Material Handling Conference in the near future, with Rutgers University.

East Central Region Presidents Meet

Presidents of the five chapters in the East Central Region met in Detroit recently, to discuss ways of aiding their chapters. Attending were F. C. Aland, Steel City Division; W. J. Burden, Central Ohio Division; W. Jones, Indianapolis Division; R. J. Steslicki, Michigan Division; T. K. Zucal, Northeast Ohio Division, C. J. Carney, Jr., SIPMHE managing director; and K. V. Moulton, regional director.

Moulton outlined three points for the coming year: (1) A goal of 25 percent increased membership. (2) Ways of encouraging inactive members to participate. (3) A program to supply speakers from local chapters.



A typical installation of Tri-State Conveyor Guard on an overhead conveyor line

for your overhead conveyor system... **USE TRI-STATE CONVEYOR GUARD**

TRI-STATE Conveyor Guard offers many advantages. It follows your conveyor line exactly, along rises or dips, and around corners, providing protection wherever needed all along the way. Tri-State Conveyor Guard is engineered in 8-foot sections to make installation easy and rapid. The light weight of wire construction adds to the ease and speed of installation... installation that is so simple that the only tool required is a pair of pliers. The Conveyor Guard is

available in various sizes, to meet the requirements of the material conveyed, of the same wire used to make the famous Cargotainers® which have capacities up to 3 tons. Conveyor Guard is delivered completely fabricated and painted, ready for installation.

Why not plan to use Tri-State Conveyor Guard on your overhead conveyor line? We'll be glad to discuss details with you.

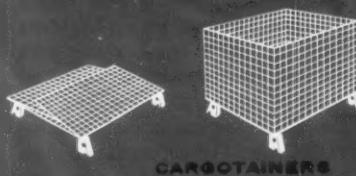
FULL DETAILS ON REQUEST

CARGOTAINER
DIVISION

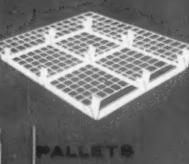
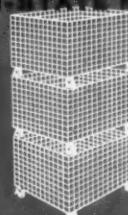
TRI-STATE ENGINEERING COMPANY
305 W. Beau Street • Washington, Pennsylvania



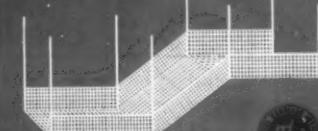
Always insist on **TRI-STATE MATERIALS HANDLING EQUIPMENT**



CARGOTAINERS



PALLETS



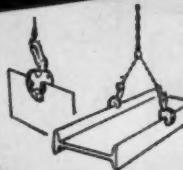
CONVEYOR GUARD



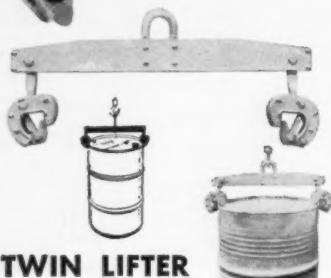
MEMBER

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YOUR BEST MOVE...MOVE
with **MERRILL**
MATERIAL
HANDLING
DEVICES



LIFTING CLAMP



TWIN LIFTER



DRUM LIFTER



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HAND GRIP



DRUM

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For Interesting Information write

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56-74 ARNOLD AVE., MASPETH, N. Y.

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Circle 388 on Reader Service Card

30

**COST
CUTTING IDEAS**



**\$ Paper Roll Grab
Saves Time**

Rolls from 10 to 60 inches in diameter are moved by this revolving grab used at Weyerhaeuser Timber Co.'s Pulp Division. Drivers do not have to dismount to position the arm for different sizes. Contact pads are covered with a durable high friction surface for handling high-finish rolls weighing up to 6500 pounds. Clamping pressure, roll distortion, and wrapper damage is held to a minimum. Dropped stock and reprocessing are virtually eliminated.

Circle 1 on Reader Service Card

as the base for the shipment is laid across two sawhorses. The product—a pump, governor, or regulator—is secured to the skid with steel strapping. Two or three straps are used depending on the part's weight, size, and shape. Straps are also used to secure accessories, fittings, or spare parts included in the shipment. Then knock-down boxes are nailed on top of the skid. The company previously made its shipping containers out of No. 2 lumber. Anywhere from 200 to 450 shipments are packaged in an 8-hour day. The firm estimates the new method saves an average of \$0.50 in material costs and 3½ minutes per unit shipped.

Circle 2 on Reader Service Card



**\$ Portable Conveyor
Cuts Grain Spoilage**

Paddy rice stored in the warehouses of West Sacramento Storage Co. doesn't get a chance to go bad. Thermocouples in the warehouses indicate if rice is giving off heat. If it is a portable pneumatic conveying system is set up quickly. Rice is saved by moving it to waiting trucks before heat can spoil it or lower its quality. The conveying system is a combination suction-pressure unit which has two vacuum pump-blowers mounted on a truck along with control instruments. Readily assembled metal pipe sections and flexible hoses move the grain up to 200 feet. Conveying takes place under vacuum until the rice



**\$ Steel Straps
Cut Shipping Costs**

A new packaging method at Fisher Governor Co. saves \$100 of materials and 10 man-hours every day. A skid which serves

FLOW



The operatorless Barrett Guide-O-Matic Tractor offers tremendous savings through planned material movement—every trip a pay load.



Is yours a mechanical or hydraulic hand truck problem? Barrett offers a complete line, such as the rugged, lightweight, hydraulic Model HX.



Another remarkable record-producer in the Barrett line—the powerful, efficient electric Barrett Palletier.

Engineered to the job...that's Barrett!

Every material handling job starts with the *problem*: how to move the product efficiently and at the lowest cost.

What's the *answer*? Select handling equipment engineered and built to do the exact job.

Three good examples demonstrate Barrett's *engineered* problem-solving ability. One is the operatorless Barrett Guide-O-Matic—an exclusive Barrett engineering development. Here's material handling at low cost, electronically—no waste motion or time loss.

Barrett also offers a complete line of hand trucks—with many exclusive engineering features. A third example is the Barrett electric Palletier—again engineered to the job.

Only Barrett offers a complete line from electronically-operated to hand-operated equipment. Your problems and needs can certainly be answered by Barrett.

Check-Chart Helps to Make Selection—Use this check-chart as a guide to the selection of the correct equipment to handle your products:

- ★ Type of equipment available
- ★ Loads vs. capacity
- ★ Speeds vs. distance traveled
- ★ Safety features
- ★ Over-all length
- ★ Over-all width
- ★ Wheel size and truck height
- ★ Aisle clearance
- ★ Ruggedness of construction
- ★ Ease of maintenance

Proved Handling Methods and Profitable Ideas—Get your copy of "Methods and Ideas," a picture-story showing how Barrett handling equipment works for industry. Forty-nine examples of correct design and construction applied to as many handling operations...ingenious applications of attachments...how Barrett can solve your problem efficiently and economically. Send coupon now.



Barrett-Cravens Company
614 Dundee Road • Northbrook, Ill.

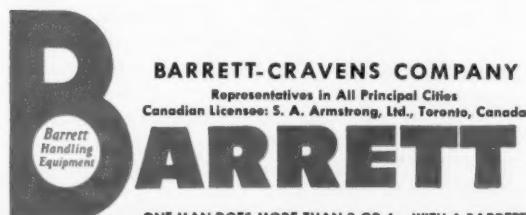
Gentlemen: Please send me "Methods and Ideas." Also Bulletins on _____ Guide-O-Matic, _____ Model HX, _____ Palletier.

Name..... Title.....

Company.....

Address.....

City..... Zone..... State.....



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protect against overload danger with
ANCHOR-WALDRON
Automatic **CUT-OUTS**

For conveyor drives of all types, these Anchor-Waldron Cut-Out units quickly pay for themselves in many ways. By insuring continuous operation of conveyors without loss of time caused by sheared drive pins; by automatically stopping conveyor before overload occurs; by eliminating undue shocks to the system—machinery is protected, production increased, time and labor costs reduced.

Anchor-Waldron Cut-Outs are available for either belt or direct connected drives.

For complete details—sizes, working range, etc., write for Catalog 51.

JOHN WALDRON CORP. • NEW BRUNSWICK, N. J.

Sales representative in Principal Cities
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**STANDARD
TYPES**

**SPECIAL
TYPES**



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32

COST CUTTING IDEAS

Continued

reaches the truck. From there it is moved under pressure to delivery trucks.

Circle 3 on Reader Service Card



\$ Bundles of Logs Simplify Handling

Elk Lumber Co., Medford, Ore., **saves time in handling logs** by strapping them into bundles. The bundling method has doubled the storage capacity of the mill's 18-acre pond, prevented log jams, eliminated the bother of recovering sinkers, and simplified sorting and inventory. Pond boats can sort bundles instead of single logs. Straps are put on the logs when they are trucked to the mill. A 2-inch strap 0.050 inch thick is passed around the load one-quarter of the length from each end. Slack is left in each strap to allow for buoyancy.

Circle 4 on Reader Service Card



\$ Mobile Crane Moves Presses

Nine offset printing **presses** were **saved from dismantling** by this mobile hydraulic crane. The presses had to be moved about 450 feet from the first to the second floor of Royal McBee Corp.'s Athens, Ohio, plant. Low ceilings, cramped aisles, and lack of overhead crane facilities almost forced

(Continued on page 34)

FLOW

Circle No. 450 on Reader Service Card →

Introducing the New GREEROLATOR

TOWMOTOR - **GERLINGER**
THE ONE MAN GANG

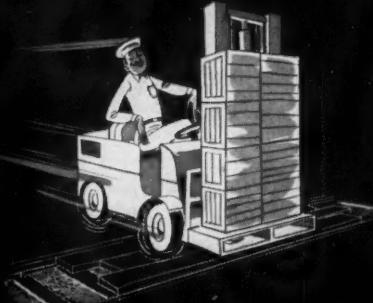


HYSTER

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TRACTOMOTIVE

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YALE



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PROVED THE MOST EFFECTIVE SHOCK-ABSORBER FOR LIFT TRUCKS AND BUCKET LOADERS!

Successfully Demonstrated to Leading Vehicle Manufacturers

In test after test, the GREEROLATOR proved its tremendous ability to absorb shock and vibration under the most rugged operating conditions. In each test, fully loaded lift trucks and bucket loaders maneuvered over the roughest ground at top speed. The characteristic bounce and jounce set up by the moving load was visibly reduced to a slight floating action. You could actually see and feel the difference!

By reducing shock to cylinders, hose, packings and other major parts, the GREEROLATOR sharply cuts replacements and maintenance costs! Heavier and larger loads can now be carried faster... and more safely! Drivers, free from the tiring effects of vibrations, work better! In every way, a low cost GREEROLATOR installed on your equipment usually means increased production with greater profits for you on every job.

Be sure your vehicles
are equipped with
the new low-cost
GREEROLATOR!

Here's Why:
VEHICLE MAINTENANCE
REDUCED!

SMOOTHER, FASTER
OPERATION!

VEHICLE EFFICIENCY
INCREASED!

U. S. Patents under Other Licenses

ASK YOUR DEALER FOR A DEMONSTRATION!

OR WRITE GREER HYDRAULICS INC. • NEW YORK INTERNATIONAL AIRPORT • JAMAICA 30, NEW YORK

STORAGE PLANNED BY F-G-M

... AVOIDS WASTED TIME, WASTED SPACE
IN TOOL AND PARTS STOREROOMS

Fewer steps, shorter waits, because all items are close . . . within easy reach, without climbing.



Here's how to cut factory costs by cutting waiting time of machinists and other expensive help at the tool-room service counter . . . decrease downtime of machines while operators wait for tools.

Servicing time can be cut in half, tool crib capacity can be doubled with expertly planned use of F-G-M Rotabins and other Bonderized Steel Shelving. F-G-M Storage Planning by experienced Storage Engineers is a Frick-Gallagher Service that's yours for the asking.



Send for your free copy of Catalog 110-B, "The Science of Economical Shelf Storage." Write to Frick-Gallagher Mfg. Co., 105 S. Michigan Avenue, Wellston, Ohio.

Frequently needed small items at your fingertips with Rotabin Counter Unit.



COST CUTTING IDEAS

Continued

dismantling or roller skid procedures—estimated to take 4 or 5 days. Use of the mobile crane cut the moving time to 1½ days and also saved labor and downtime. The printer estimates that the crane more than paid for itself the first time it was used.

Circle 5 on Reader Service Card



\$ Simple Box Sets Up Quickly

Wix Corp., maker of oil, air, and fuel filters, cut packaging costs by using this corrugated box. It sets up faster, has fewer parts and is more economical than the former packing method. The box has a special sheet which opens easily to form a sturdy interior packing unit. Die-cut flaps support the filters in transit. For added protection, specially scored sections join top, bottom, and sides. Twelve of the boxes are packed in a shipping container.

Circle 6 on Reader Service Card





FRICK-GALLAGHER
BONDERIZED
STEEL EQUIPMENT
FOR EVERY STORAGE NEED

ROTABINS	STEEL SHELVING	WAREHOUSE RACKS	COUNTERS	SPECIALTIES

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\$ Heavy Duty Trucks Carry More Load

By using heavier, more rugged equipment, a West Texas sand and gravel hauler this year is doing 15 percent more hauling while cutting operating costs 20 per-



cent. This was done with a fleet of heavy-duty diesel tractors. The tractors, pulling 15-yard cable dump-trailers, each average 4,000 to 7,000 miles a month.

Circle 7 on Reader Service Card



\$ Treated Paper \$ Protects Fine Finishes

L. G. Parent, vice president of engineering and manufacturing, Emerson Radio and Phonograph Corp., says: "We have saved thousands of dollars in the past year" by using a specially treated sheet to cover finely polished varnished surfaces. The paper has a smooth surface which reduces surface friction. It's used to eliminate shipping scratches and abrasions on wood, metal, glass, plastic, and other fine finishes.

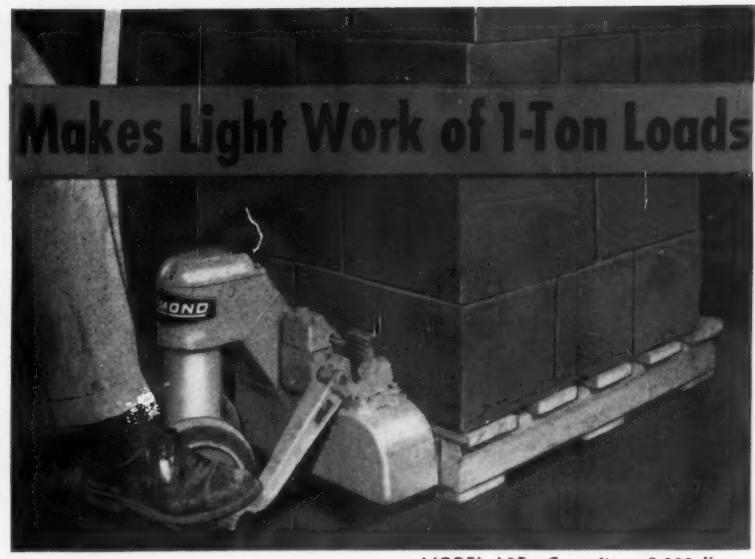
Circle 8 on Reader Service Card



\$ Trucks Carry More Payload

A freight company operating in the west purchased 60 new 24-foot semi's. Selection was made, says the company president, "on the added flexibility of the smaller units" and because "we get more miles per tractor while reducing the cost per mile." Although lighter, it carries a legal 48,000 pound payload against the previous 36,000 pounds.

Circle 9 on Reader Service Card



MODEL L2P Capacity: 2,000 lbs.



Lightweight

HYDRAULIC PALLET TRUCK

ONE MAN can handle 2,000 lb. loads with ease with the Raymond Lightweight Pallet Truck. Because this truck lets hydraulic power do your heavy lifting . . . frees 2 or 3 men for other work.

Lightweight makes it easy to maneuver and pull, lessens operator fatigue. Ruggedly constructed to withstand years of use and abuse. Offers effortless pallet entry, foot pedal lifting and lowering. Little wonder this Raymond Truck is the world's most popular pallet truck!

Handles skids too

Optional Skid Adapter lets Raymond Pallet Truck handle 2,000 lb. skid loads. Hinged superstructure raises out of the way when handling pallets, lowers into position for handling skids.



The RAYMOND CORPORATION

3325 Madison St., Greene, N.Y.

Send Lightweight Pallet Truck bulletin.
 Send Pallet Truck Skid Adapter information.

NAME _____

TITLE _____

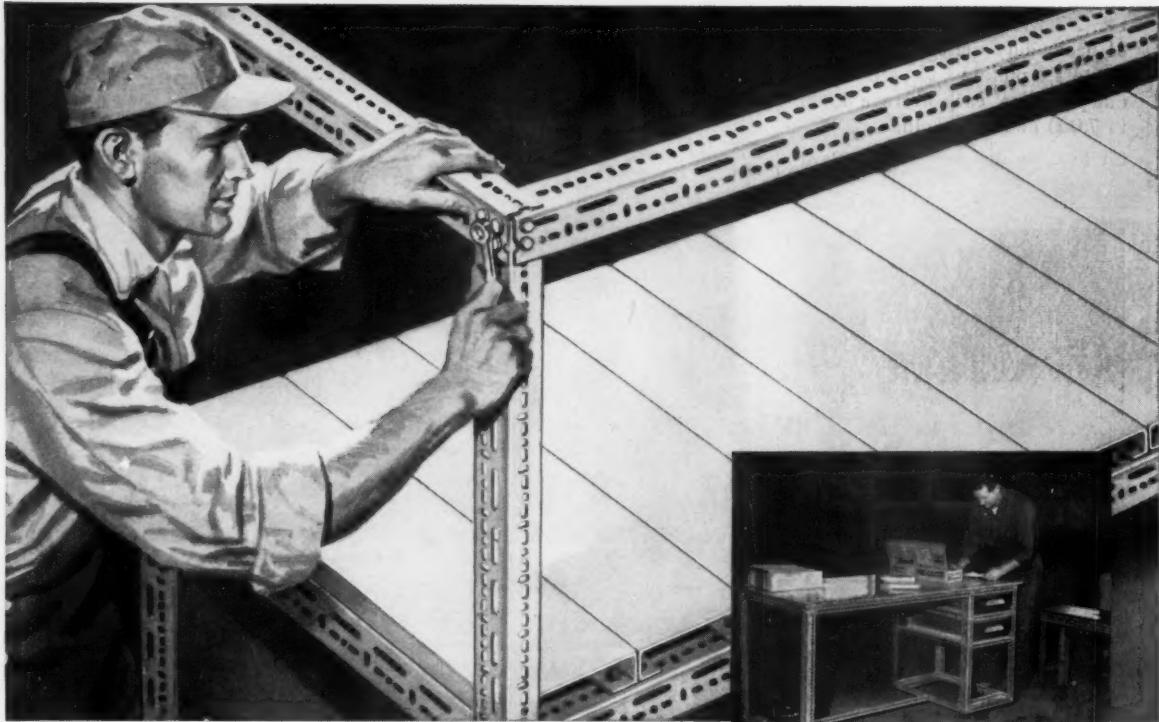
COMPANY _____

STREET _____

STATE _____

BULLETIN
ON
REQUEST

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Bolt together ideas!...

Build to your specifications with



Dexion Slotted Angle

DEXION Slotted Angle, the Idea material, is merely cut and bolted together to fill whatever ideas you may have for uses of framing material. Its utility is as broad as your imagination, and it requires no special skills for assembly. The only tools needed are a wrench and a DEXION cutter to build whatever ruggedly strong, economical and useful equipment you desire for your plant, warehouse or store.

Merely measure DEXION by counting cutting marks spaced every three inches. Then cut with an easy stroke of a clean-shearing DEXION Cutter. Carefully engineered DEXION slot and hole pattern matches up to make assembly easy, true and strong. And you simply bolt the pieces together to assemble whatever structure your good ideas have led you to erect.

You can obtain DEXION Slotted Angle in easy-to-handle packages of ten galvanized, cold rolled steel pieces in 10 or 12 foot lengths. And nuts and bolts are included. DEXION has two sizes: $3'' \times 1\frac{1}{2}'' \times .104''$ and $2\frac{1}{4}'' \times 1\frac{1}{2}'' \times .080''$.

There are strong DEXION Panels available for shelving, table tops, or any decking you may want to apply to your DEXION framed structure. Special DEXION Casters will add mobility, if you desire.

FREE Acme Steel Dexion Idea Book—It contains scores of Dexion ideas-in-use. See what others have created in practical, low-cost equipment. To start your ideas rolling, get your copy now. Write to Dept. FDD-48, Dexion Division, Acme Steel Company, Chicago 27, Illinois. We'll send the book plus the name of your nearest Dexion office or distributor.



Moveable Shop Desk



Storage Racks



Shelving



DEXION SLOTTED ANGLE

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In emergencies you want service . . . and fast!

You don't care *how* it's done . . . as long as you get the part you need *when* you need it. Yet, the fact that Clark has opened a new Central Parts Division in Chicago with over 4,500,000 stock parts under one roof is important to you.

For now, if your local Clark dealer cannot supply a specific part, his request to the Parts Division is processed immediately through a punch-card system, completing the order fast and efficiently. Thus, in an emergency, the part can be

air-shipped to your dealer within 24-hours. This is Clark's assurance to you that you will have your trucks back on the job as quickly as possible.

Illustrated literature describing both the direct benefits and the methods of operation of this Division is available on request. For your copy, write to: Central Parts, Clark Equipment Co., Battle Creek, Michigan.

CLARK®
EQUIPMENT



The separate load and motor brakes operate simultaneously. Each alone can hold the capacity load. Safe 24-volt push-button control, low headroom, choice of suspensions, and "in-the-air" serviceability are other Load Lifter features. Single and 2-speed models available in 1 to 15 tons.

Control so accurate
you can even spot
a load on glass —
SAFELY!

To demonstrate that the double braking system on the Load Lifter Electric Hoist does stop loads instantly, we set up this "glass test". Time after time, the hoist operator spotted the load on the fragile window glass without breaking it!

Fast, accurate spotting with no drift or backdrop is a must in handling all kinds of loads. Load safety and production economy demand it—the Load Lifter Hoist assures it. While this novel test proves the precision control of the Load Lifter, convince yourself by seeing one doing actual production work. Call your Shaw-Box Distributor and ask him to arrange for a demonstration in a nearby plant. Or, write us for complete details about Load Lifter Wire Rope Electric Hoists.

Load Lifter® **ELECTRIC HOISTS**



MANNING, MAXWELL & MOORE, INC.

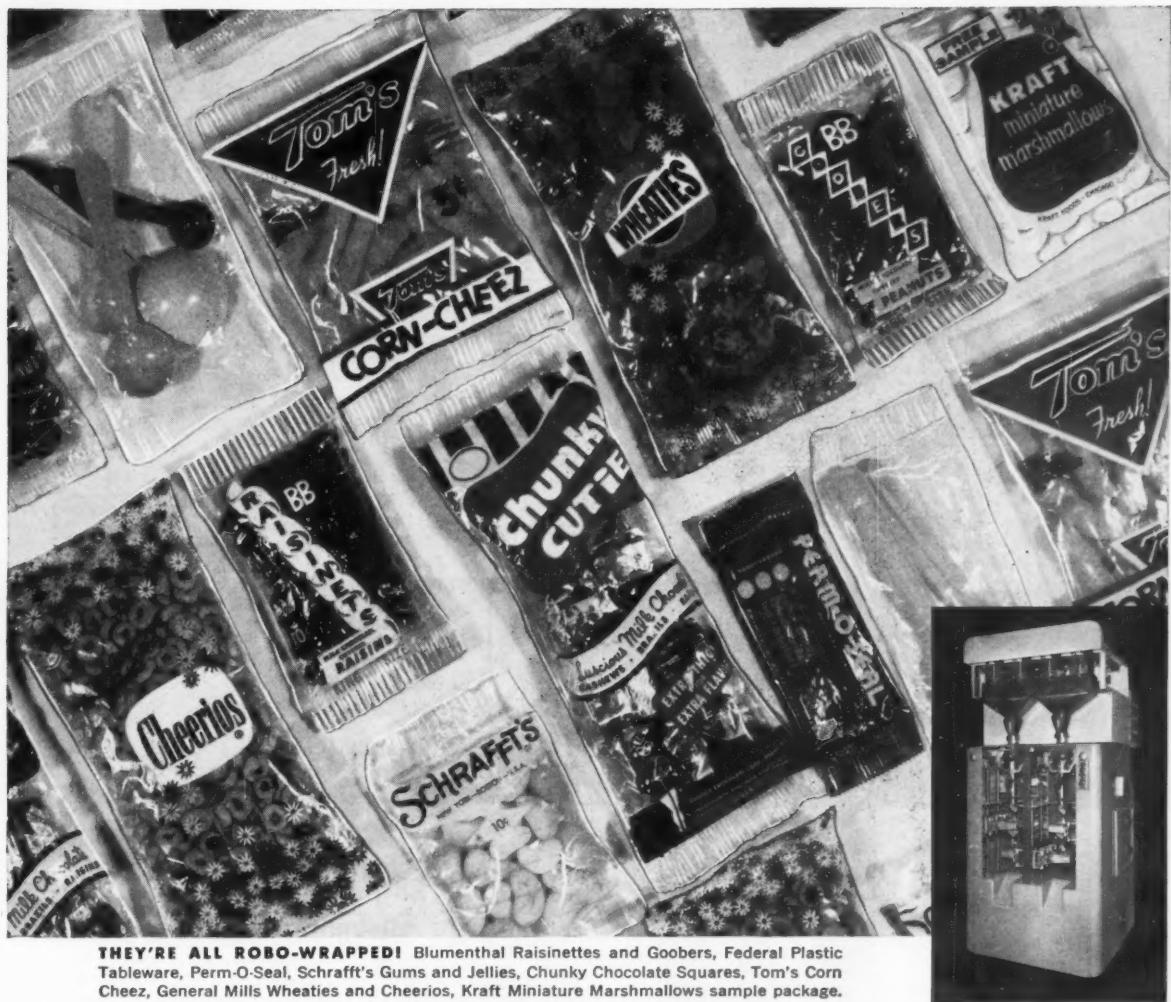
SHAW-BOX CRANE & HOIST DIVISION

366 West Broadway • Muskegon, Michigan

Builders of "SHAW-BOX" and "LOAD LIFTER" Cranes, "BUDGIT" and "LOAD LIFTER" Hoists and other lifting specialties. Other Divisions produce "ASHCROFT" Gauges, "HANCOCK" Valves, "CONSOLIDATED" Safety and Relief Valves, and "AMERICAN" and "AMERICAN-MICROSEN" Industrial Instruments.

In Canada: Manning, Maxwell & Moore of Canada, Ltd., Avenue Road, Galt, Ontario.

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THEY'RE ALL ROBO-WRAPPED! Blumenthal Raisinettes and Goobers, Federal Plastic Tableware, Perm-O-Seal, Schrafft's Gums and Jellies, Chunky Chocolate Squares, Tom's Corn Cheez, General Mills Wheaties and Cheerios, Kraft Miniature Marshmallows sample package.

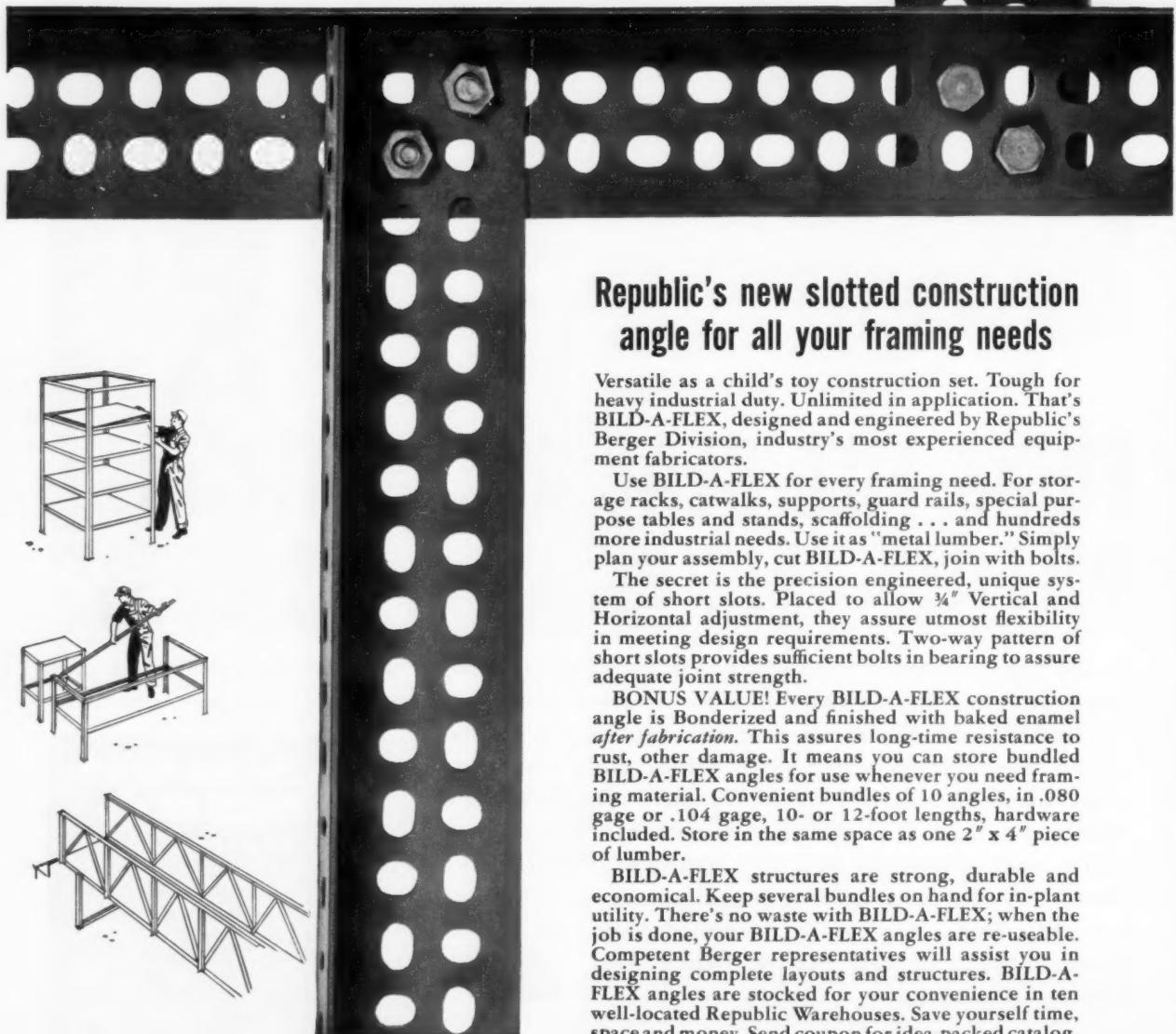
FORM, FILL, SEAL AUTOMATICALLY PILLOW-PACKAGING CUTS COSTS

Does your product belong in this picture? It does if automatic packaging can save you money. Doesn't matter whether you package solids, powders, granules or liquids... Robo-Wrap heat seals them in a single or double wall of cellophane, paper, polyethylene, Foil Laminates, Mylar or Saran. Hand-over-hand method forms, fills and seals packages from a continuous roll for highest efficiency. Robo-Wrap changes package size quickly, too. Write for booklet that gives facts on low maintenance and higher efficiency.



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THIS IS BILD-A-FLEX!



Republic's new slotted construction angle for all your framing needs

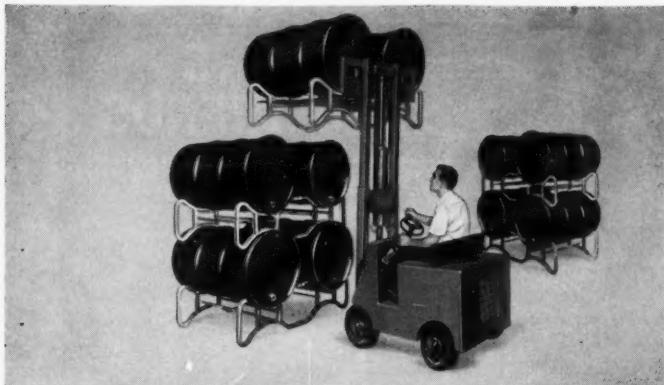
Versatile as a child's toy construction set. Tough for heavy industrial duty. Unlimited in application. That's BILD-A-FLEX, designed and engineered by Republic's Berger Division, industry's most experienced equipment fabricators.

Use BILD-A-FLEX for every framing need. For storage racks, catwalks, supports, guard rails, special purpose tables and stands, scaffolding . . . and hundreds more industrial needs. Use it as "metal lumber." Simply plan your assembly, cut BILD-A-FLEX, join with bolts.

The secret is the precision engineered, unique system of short slots. Placed to allow $\frac{3}{4}$ " Vertical and Horizontal adjustment, they assure utmost flexibility in meeting design requirements. Two-way pattern of short slots provides sufficient bolts in bearing to assure adequate joint strength.

BONUS VALUE! Every BILD-A-FLEX construction angle is Bonderized and finished with baked enamel *after fabrication*. This assures long-time resistance to rust, other damage. It means you can store bundled BILD-A-FLEX angles for use whenever you need framing material. Convenient bundles of 10 angles, in .080 gage or .104 gage, 10- or 12-foot lengths, hardware included. Store in the same space as one 2" x 4" piece of lumber.

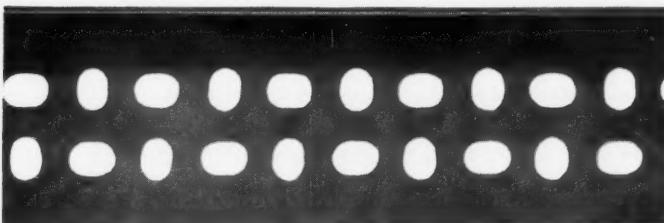
BILD-A-FLEX structures are strong, durable and economical. Keep several bundles on hand for in-plant utility. There's no waste with BILD-A-FLEX; when the job is done, your BILD-A-FLEX angles are re-usable. Competent Berger representatives will assist you in designing complete layouts and structures. BILD-A-FLEX angles are stocked for your convenience in ten well-located Republic Warehouses. Save yourself time, space and money. Send coupon for idea-packed catalog.



ANOTHER REPUBLIC EXCLUSIVE! NEW PORTABLE DRUM RACK. Now, more in-use drums can be accommodated in less floor space than ever before. These steel cradles each support two loaded 55-gallon drums, permit orderly stacking of pairs of drums to any practical height. Any standard fork-lift truck can pick up, move, and stack as many tiers of drums at one time as capacity permits. Low in cost. See your Republic materials handling equipment dealer, or send coupon.



DESIGNED FOR HEAVY-DUTY SERVICE. Republic's PB-127 Collapsible Box is ideally suited to shipping castings and other heavy items. It can be tiered when loaded or empty, collapsed or set-up. It offers up to 66% saving in storage space. All parts are permanently attached. It's another item in Republic's big line of materials handling equipment that assures long, efficient service at lowest per-year cost. See your dealer, or send coupon.



TRUSCON COMPLETE STEEL BUILDING. **LOW IN COST, QUICKLY ERECTED, RE-USEABLE.** Here's a "budget building" in every sense of the word. Can be shipped complete to your site, quickly erected. Truscon quality design and fabrication. Mass-production of standard steel components keeps costs low. Siding, roofing, windows, doors, hardware all included. 32- to 48-feet wide; as long as you want it. Send coupon for bulletin.



REPUBLIC STEEL



*World's Widest Range of Standard
Steels and Steel Products*

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APRIL, 1958

REPUBLIC STEEL CORPORATION • DEPT. FL-5109, 1441 REPUBLIC BUILDING • CLEVELAND 1, OHIO

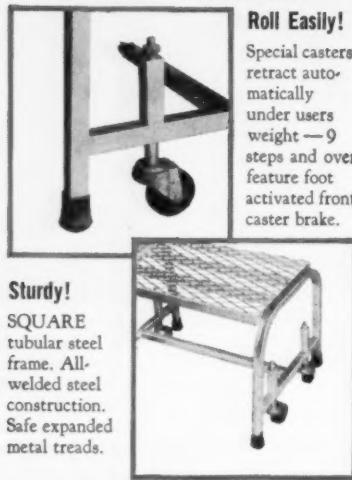
Please send more information on—

Truscon Buildings BILD-A-FLEX Angles
 Materials Handling Equipment Drum Rack
 Title
 Zone
 Name
 Firm
 Address
 City
 State

Work Safely

on

1 to 12 Step Ladder-Stands



Circle 304 on Reader Service Card
42



Safety Rules Are Handling Rules

We've all assumed that good material handling reduces safety hazards. To check on it, though, we looked up some principles in texts on safety engineering. In a composite of these, you'll see how many ways good handling and safety design coincide.

- Allow ample space around machines for service, repairs, materials in process, and finished work.
- Arrange equipment in logical flow lines, continuous when possible, without back- or cross-tracking.
- Equalize output of machines to minimize banking of materials and finished work.
- Provide efficient, safe and flexible equipment to move materials and remove finished work.
- See that there are ample, handy facilities for packing and storing materials, parts and finished products.
- Keep aisles, stairways, and elevator approaches unobstructed.
- Build in means for safe, quick power cut-off not only at machines and other critical points but also at central locations. See that they are safety-locked to prevent accidental starts.
- Provide for positive, quick removal of dust and fumes.
- Arrange the plant and provide equipment for good housekeeping.
- Design safe routing of all plant traffic.

In this issue you'll see how nine plants which won safety awards followed these rules.

The Heat's on Handling

Material handling activity is as high now as at any other time we can recall. We're not surprised. We figured last fall that industry would demand more of us this year. But we are a bit startled at the extent of demand for better handling methods.

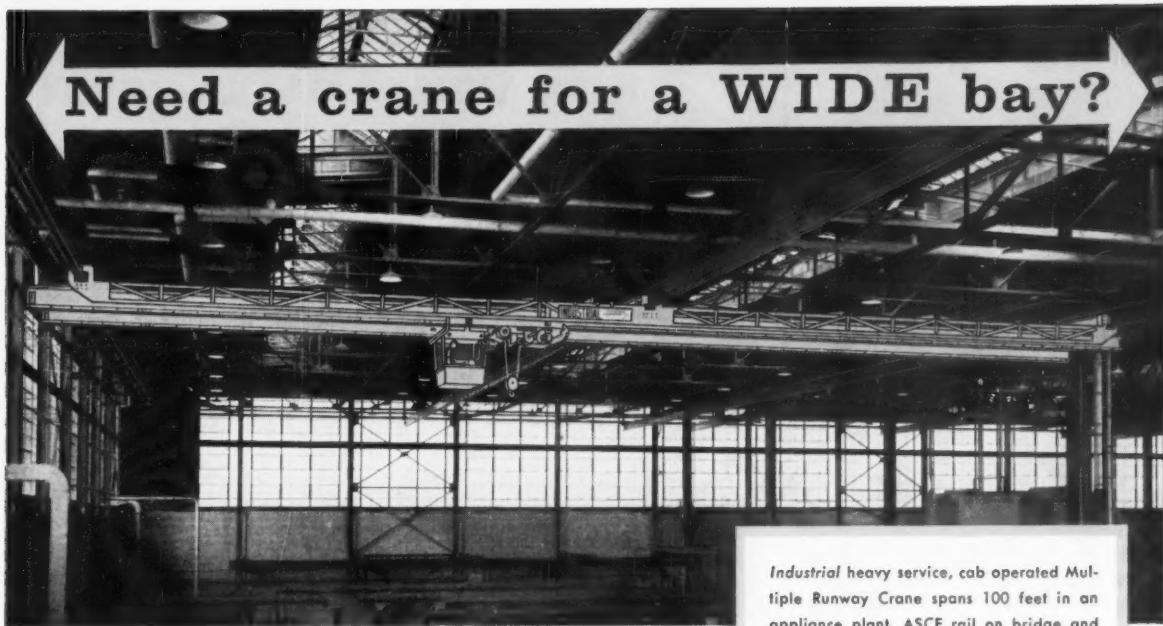
Paying more attention to costs than in any year since War II, companies are asking more and more of their handling men. Some plans stalled for months are now being rushed. They're not just for improving operations or departments; many involve whole plants. In dozens of companies recently visited by FLOW editors, the heat has been on handling departments to relieve management of other pressures.

Some of the results will be highly unusual. A good number will require substantial outlays for engineering services and equipment. An industrial architect has told us his firm badly needs competent help to get out the work on contract. Firms large and small want handling improvements.

You'll see this picture develop in coming FLOW issues. We've scheduled some of the most interesting articles ever written. With the wealth of good material now on hand, we're going to have to put aside descriptions of some substantial systems because they are not as novel as others. We've planned issues through August in detail, and outlined others through February 1959.

Our new Distilled Writing technique is going to help a lot. We'll be able to cover more of the new developments than we could before. Only with this approach could we hope to pass along so many details on our burgeoning technology.

Ed Leighton
Executive Editor



Industrial

Multiple runway cranes provide crane coverage over widest bays

If you are planning an extra wide shop bay requiring overhead crane service and still want to keep floor areas clear of supporting pillars, *Industrial's* Multiple Runway Crane will fill the bill. Multiple runways allow minimum depth and weight of crane bridge and eliminate intermediate supporting pillars even on extremely long spans. This member of the versatile *Industrial* crane family is ideal for warehouse or similar application where wide, unobstructed floor space is at a premium.

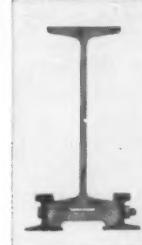
Trouble-free service is built into *Industrial* Multiple Runway Cranes with engineering features proved superior in *Industrial* standard high quality underhung cranes:

- Forged steel heat treated wheels.*
- Patented removable axles.
- Flexible couplings throughout.
- Gear drive enclosed in oil bath.
- Jig-assembled and jig-bored end trucks with large gusset plates for perfect alignment.
- Precision ball and roller bearings.
- Channel or truss type outrigger standard equipment for extra support.

*All driver wheels are heat treated for extra wear.

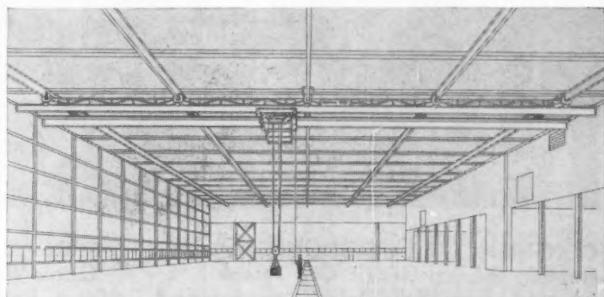
Industrial heavy service, cab operated Multiple Runway Crane spans 100 feet in an appliance plant. ASCE rail on bridge and runways for high speed and heavy service.

Industrial Heavy Service Underhung Track Section.



This heavy service *Industrial* track combines the durability of a high carbon manganese running surface with the safety of a ductile structural I-beam load-bearing member.

One of three *Industrial* floor operated, 15 ton Multiple Runway Cranes installed in an aircraft factory. Cranes span 130 feet. ▶



To obtain fullest economy from *Industrial's* Multiple Runway Crane in new or existing buildings consult with *Industrial* engineers. *Industrial* makes many other types of overhead and jib cranes and can recommend the type and size that will best fill your needs. Send for Catalogs.



INDUSTRIAL CRANE & HOIST INGERSOLL PRODUCTS DIV. BORG-WARNER CORP.

1530 S. PAULINA STREET, CHICAGO 8, ILLINOIS

Export Sales: Borg-Warner International, 36 South Wabash Ave., Chicago 3, Illinois
Circle No. 363 on Reader Service Card for more information



NEWS ABOUT AMHS

New Jersey Handling Conference Is Success

The first Conference & Exposition sponsored by the New Jersey Chapter and Westinghouse was a tremendous success. H. H. Lemmerman and Westinghouse's Wally Hall planned the program where Westinghouse literally opened its doors and exposed many practical applications of handling equipment.

D. C. Burnham opened the conference with his presentation of "Top Management's Interest in Plant Layout and Material Handling". He discussed how Westinghouse did an effective job of plant layout and material handling using three-dimensional layouts. V. J. Eichenlaub talked on "The Collection of Necessary Data for Plant Layout". He covered the data necessary to determine the kind of equipment, amount of

equipment, location and supporting services necessary to manufacture a given product. G. H. Grossnickle's speech, "How to Modernize and Manufacture Efficiently in an old Multi-Storied Building", told how to convert an old building for efficient operation. S. C. Iannaccone's topic, "Planning the Layout for an Existing Multi-storied Plant", showed the use of block-plan layouts in determining the best flow patterns. J. Wellington Hall discussed "The Material Handler's Role in the Layout of a Multi-storied Plant". He pointed out techniques of analysis of the material handling problems and the system established for movement of material. J. E. Woodall spoke on Westinghouse Lamp Division's approach to better use of existing building space, increased production with reduced costs and reduced inventory. His talk was "Material Handling Problems as Related to High Volume Produc-

tion." R. A. Schieber discussed "The Transitional Periods of Radio and Television Manufacturing". P. M. Stahl talked on "Maintaining Good Layout and Material Handling Practices". R. C. Robinson discussed "Material Handling Problems of Large Bulky Products at Dover".

W. O. Lippman directed question and answer periods following each session. During these periods everyone had the opportunity to ask material handling questions.

Reserve A Room For June Board Meeting

Do you want a room reservation for the Tenth Annual Board Meeting to be held in Cleveland, Ohio, June 7 and 8, 1958. Write Arthur E. Fryer, administrative secretary, 3737 Upton Avenue, Toledo 13, Ohio. Hotel rooms during "Show Week" are handled by the Convention Bureau and not the hotel, so, it will be necessary for you to send two reservations. One will cover your stay before and during the annual meeting which ends at 3:00 p.m. on Sunday. The other reservation will cover your stay in the same room for Sunday night and the following days that you choose to remain for the show.

Time is important, so all reservations must be in by March 15th.

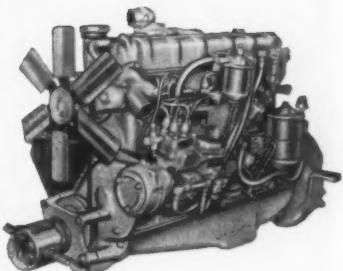
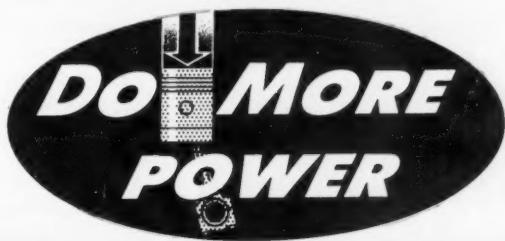


CONFERENCE & EXPOSITION COMMITTEE—(First Row L to R) R. L. Hopkins, General Electric Co.; Joseph F. Zeman, Curtiss-Wright Corp.; Edward L. Jones, Pallet Sales Corp.; Francis B. Dahlinger, Raybestos Manhattan Inc.; Gretch Frazier; Herbert H. Lemmerman, Air Reduction Sales Co.; (Second Row) Raymond C. Reuther, Elbert Lively & Co.; Andrew Kornylak, M-H Standard Corp.; Walter F. Friedman, Container Laboratories, Inc.; Bruno B. Wolff, Chicago Tramrail Corp.; S. P. McDaniels, Material Handling Engineer; (Third Row) Bob Welsh, Wright Hoist Division ACCO; James E. Kelly, U.S. Naval Ammunition Depot Earle; Frank Gitt, Thomas J. Lipton, Inc.; (Fourth Row) J. Wellington Hall, Westinghouse Meter Div.; Edward J. Miller, Diamond Expansion Bolt Co., Inc.; Don Fraizer, Fraizer Industrial Co.; Alfred E. Schmidt, Kramer Chemicals, Inc.

Toledo Handling Institute April 15 and 16

American and Canadian experts on material handling will be speakers at a two-day institute at the University of Toledo April 15 and 16. The event is the second annual Great Lakes Material Handling Institute sponsored by the

ALLIS-CHALMERS
YEARS-AHEAD DESIGN WITH



... gives you

"Do-More" lift truck performance

It takes a heavy-duty *industrial* engine — one that develops tough "hang-on" torque — to do a really good job in a fork truck. Allis-Chalmers *Do-More* engines have it!

That's why the Allis-Chalmers fork truck engine is unique in the industry today. It is a real heavy-duty engine with high, yet comparatively even torque . . . one that delivers the most power at normal working speeds. Under your operating

"They're brutes for punishment," is one comment on the Allis-Chalmers lift trucks operating in the Michigan Screw Products plant, Center Line, Mich. "We used to replace an engine a year — haven't replaced any in the Allis-Chalmers trucks."

conditions you'll find that *Do-More Power* does more work — and lasts longer.

This *Do-More Power*, plus many years-ahead truck features, gives you the "Do-More" lift truck performance you want. Send for literature or ask your Allis-Chalmers material handling dealer for a demonstration.

Allis-Chalmers, Engine - Material Handling Division, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS

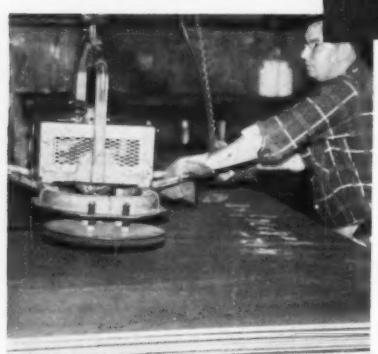


DON'T MISS THE BOAT...

VAC-U-MATION®

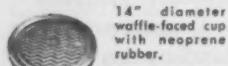
is TODAY'S safer and more economical way to handle
SHEETS and BLANKS*

Two views of 4-cup VAC-U-MATION Lifter showing 2600 lb. steel plate in horizontal and vertical positions. In operation at a West Coast aluminum plant.



2-cup VAC-U-MATION Lifter at CATERPILLAR TRACTOR, Joliet, Illinois plant handling 500 lb. sheets on squaring press.

*STEEL, ALUMINUM, GLASS, WOOD, etc.



14" diameter waffle-faced cup with neoprene rubber.
Molded on steel backing plate equipped with 4 mounting holes. Other designs for 6", 8" and 10" diameters available.



20" square waffle-faced cup with neoprene rubber.
Molded on aluminum backing plate equipped with 4 mounting holes.



Rectangular cups with neoprene rubber molded on steel backing plate. Sizes 2 1/2" x 8 3/4" and 3 1/2" x 16".



Write for
NEW Catalog!



VAC-U-MATION DIVISION

4121 Ravenswood Avenue, Chicago 13, Illinois
District Offices: Detroit and Cleveland

Circle No. 427 on Reader Service Card for more information

NEWS ABOUT AMHS

Continued

Toledo Chapter and the Adult and Continuing Education division of the University.

The program will include talks by James M. Apple, G. L. Bowies, Charles J. Zusi, and F. C. Hautau. To conclude the program Dr. James C. Hodgetts, associate professor of management at the University of Toledo, will conduct a brainstorming demonstration.

University of Buffalo Gets \$2300.00

The Niagara Frontier Chapter presented the University of Buffalo with \$2300.00 for further material handling activities such as:

1. Development and presentation of material handling courses.
2. Procurement, use and application of material handling equipment and literature.
3. Establishment of material handling research and service to industry.
4. Prizes and awards to stimulate student interest.

For the past three years, the chapter has spearheaded several Evening Courses in Material Handling under the chairmanship of Samuel H. Isaacs, vice-president of Region III. This new semester at U. B. will now have a one credit course for day students.





MEN IN THE NEWS

At Lamson Corp. . . . Calvin A. Burton has been appointed assistant to the vice president of systems. In his new position, Burton will be responsible for special projects for the Industrial and Commercial Divisions. He was first employed by Lamson shortly before World War I and, after serving in the U. S. Marine Corps., rejoined the company and held positions as district engineer, field engineer, industrial sales manager and general sales manager. During the last three years, he was general sales manager for the Alvey Conveyor Mfg. Co.



C. A. Burton

At Yale & Towne Mfg. Co., Materials Handling Div. . . . the sales manager of the New York Sales and Service Branch is **Philip R. Van Duyne, Jr.** He succeeds **Joseph J. Murray** who has been named a national accounts sales manager for Yale. **P. R. Van Duyne, Jr.** Before joining the New York staff, Van Duyne held company positions in Philadelphia and Los Angeles.



P. R. Van Duyne, Jr.

At Yale & Towne Mfg. Co., Materials Handling Div. . . . the Detroit sales and service branch manager will be **Neal J. Kemp**. In addition to the operation of the branch in Detroit, Kemp will also be in charge of a Yale sub-branch sales and service center in Grand Rapids, Mich.

At Leschen Wire Rope Div., H. K. Porter Co., Inc. . . . **Charles McKenna** has been appointed sales representative for the New England and upper New York State territory.

At Link-Belt Co. . . . the new Birmingham district office manager is **Bruce Mayo**. He has been with the company since 1945. Previously, Mayo has held the positions of sales engineer of special bulk handling and overhead trolley equipment and sales engineering of the Louisville district office.



Bruce Mayo

At Exide Industrial Div., The Electric Storage Battery Co. . . . the appointment of **Lowell K. Kembke** to the position of railway markets supervisor has been announced. He was formerly sales and service engineer with Exide's South Central Office in Kansas City for the past twelve years.

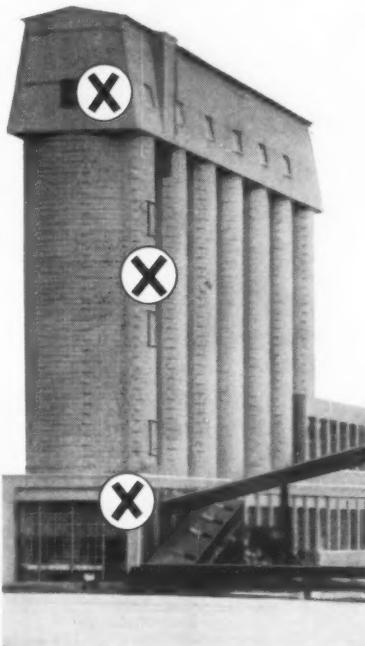
At R. M. Hollingshead Corp. . . . **Merritt Reed** has been named sales representative for the Maintenance Chemical Div. and will cover New England and upper New York state.

At Automatic Transportation Co. . . . a new franchised representative has been named. **Charles G. Davis**, with headquarters in Albuquerque, New Mexico, will handle lift truck sales in New Mexico and El Paso, Texas. He will offer complete service facilities for the Automatic line of industrial trucks.

At Lewis-Shepard Products, Inc. . . . exclusive sales and service representative in Western Tennessee, Arkansas and Northern Mississippi will be **Malcolm S. Cone, Jr.** Cone, formerly a sales engineer for a mill supply firm, will make his headquarters in Memphis.

(Continued on page 50)

X MARKS THE CRITICAL SPOTS!



**It takes
more than muscles to
build a storage bin**

Before the physical work of building a bin begins, we must know the problems involved at the *Three Critical Points*.

- X** What is the loading problem?
- X** What are the characteristics of the material to be stored . . . and its "flowability"?
- X** What is the volume and rate of discharge?

When planning your next storage bin, may we sit in on the very early stages of planning?

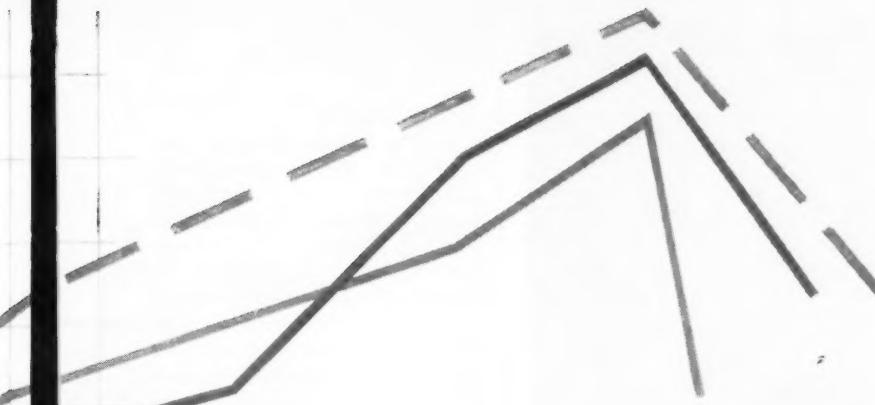
NEFF & FRY COMPANY
110 Elm St., Camden, Ohio



*You can always
spot a Neff & Fry Bin
by the shape of
the staves*

Circle 395 on Reader Service Card





Now You Can Crack the Materials-Handling Cost Barrier

If you move Skidded or Palletized loads of 2000, 3000, 4000, or 6000 pounds, you can save money with AMERICAN Load-Lift Trucks.

- * **Low initial cost**
- * **Few moving parts**
- * **Every stroke a power stroke**
- * **You cannot corner this truck**
- * **No flying handles**
- * **Semi-steel, rubber or plastic wheels**
- * **Skid trucks double as platform trucks**

Ask your AMERICAN PULLEY Distributor to demonstrate Load-Lift

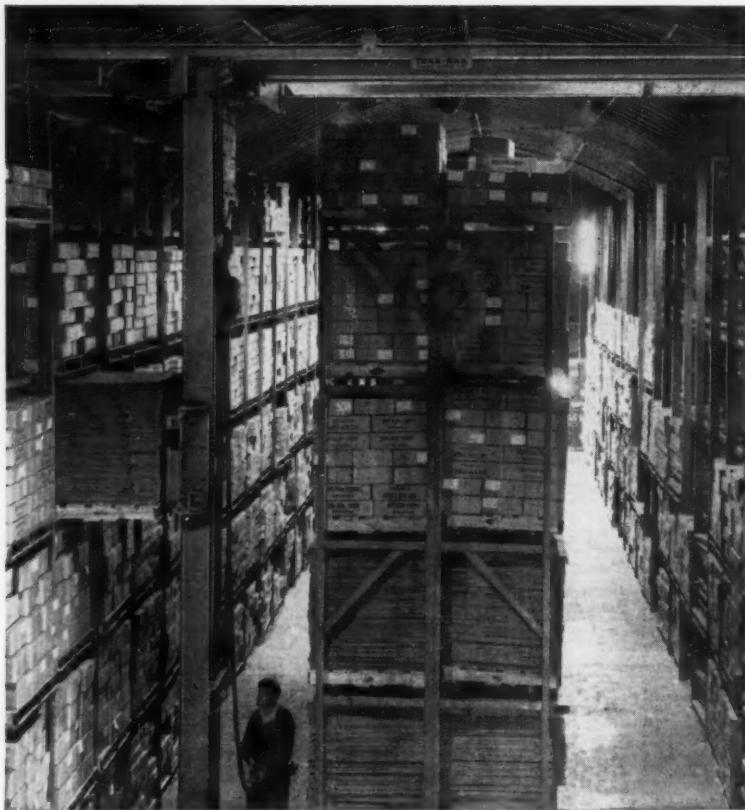


Products of

The American Pulley Company

Philadelphia 29, Pennsylvania

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Oneida Ltd.

- stores 40" x 48" pallets 23 ft. high—within inches of the top of the trusses—
- has 100% selectivity in placement and removal with 1-man pendant push-button control.

CHICAGO TRAMRAIL TRAK-RAK STORAGE SYSTEM

secured these space-saving, time-saving advantages for Oneida Ltd. with a 3,000 lb. capacity self-contained TRAK-RAK crane operating as a top-running crane on rails mounted directly on top of the racks.

Material is delivered to either end of a storage hut by fork truck or other means. The TRAK-RAK then places it in preselected racks on either side of the aisle and stacks the material up to a height of 23 ft. which is considerably higher than by any other means.

The Oneida Ltd. installation in the storage hut did not permit any overhead handling equipment without additional structural steel to support the crane, and the TRAK-RAK Storage System was made without any alterations to the building whatsoever.

Like all TRAK-RAK installations, the crane permits movement in eight directions—up, down, to both sides; and rotates a full 360° clockwise and counter-clockwise to serve both aisles. The system can be installed in practically any type of storage building and can be furnished as a self-contained unit running on top of the racks or as an underrunning crane system where interlocking transfer can be furnished when desired. Unit can also be supplied with automatic prepositioning devices, with telescoping column, with cab for operator to ride with the load, and with many other features as may be required by the application.

TRAK-RAK Applications is a new 20-page illustrated booklet showing representative operating installations with many different types of materials in many diverse industries. It will be sent to you upon request without obligation. Write for it today!



CHICAGO TRAMRAIL CORPORATION 1322 SOUTH KOSTER AVE. • CHICAGO 23, ILLINOIS

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50

MEN IN THE NEWS

Continued

At The Lincoln Electric Co., . . . three district offices heads have been named. **Paul McGonigle**, **Richard R. Gould** and **Jerry Weiss** will assume management of the Boston, Pittsburgh and Detroit offices respectively. All three have completed a one year training program at Lincoln's Cleveland plant before moving to their present assignments.

At Automatic Transportation Co. . . . the sales Manager of the newly acquired hand truck line is **J. M. Johnson**. He began his career with the Walker Vehicle Co. in 1919.

At Hyster Co., Industrial Truck Div., . . . **Walter A. St. Clair** has been named assistant sales manager of the industrial truck division and will work directly with all domestic dealers in the nationwide wholesale organization. **James N. Rector**, also named assistant sales manager of the industrial truck division, will handle the administrative duties connected with the new division's sales activities.

At Hartman Metal Fabricators, Inc., . . . representatives for the Philadelphia area and Quebec, Canada are **Francis D. Wassem** and the **Daniel W. Clark Co.**, respectively.



I told 'em to send over one of their models for a trial.

FLOW

Circle No. 466 on Reader Service Card →



Utilizes outside storage areas



Scrap grab recovers salvage



Dozer blade spreads gravel for new parking area



The Work Bull 1001
Multi-Purpose Tractor Loader

WORK BULL NEW FORK LIFT

— HAS 10 QUICK-CHANGE ATTACHMENTS TO LET YOU HANDLE PRACTICALLY ALL YOUR MATERIAL HANDLING AND MAINTENANCE PROBLEMS

This new Work Bull Fork Lift is the best material handling unit available that works with equal efficiency off or on hard surfaces.

It has high flotation, power, and versatility to handle a wide-range of jobs around your plant or operation.

With this unit you can convert rough, unpaved areas into low-cost storage yards. Ten change-in-a-minute attachments let you use it as scrap grab... or as a dozer... or as a loader with hydraulic bucket... load clamp for bottled gas... or dozens of other jobs.

Chances are, you will wonder how you ever got along without it... and one thing for sure it will cut down on your manpower cost.

Everything is designed for the operator's convenience with controls right where he needs them — at his finger tips. Power steering is standard.



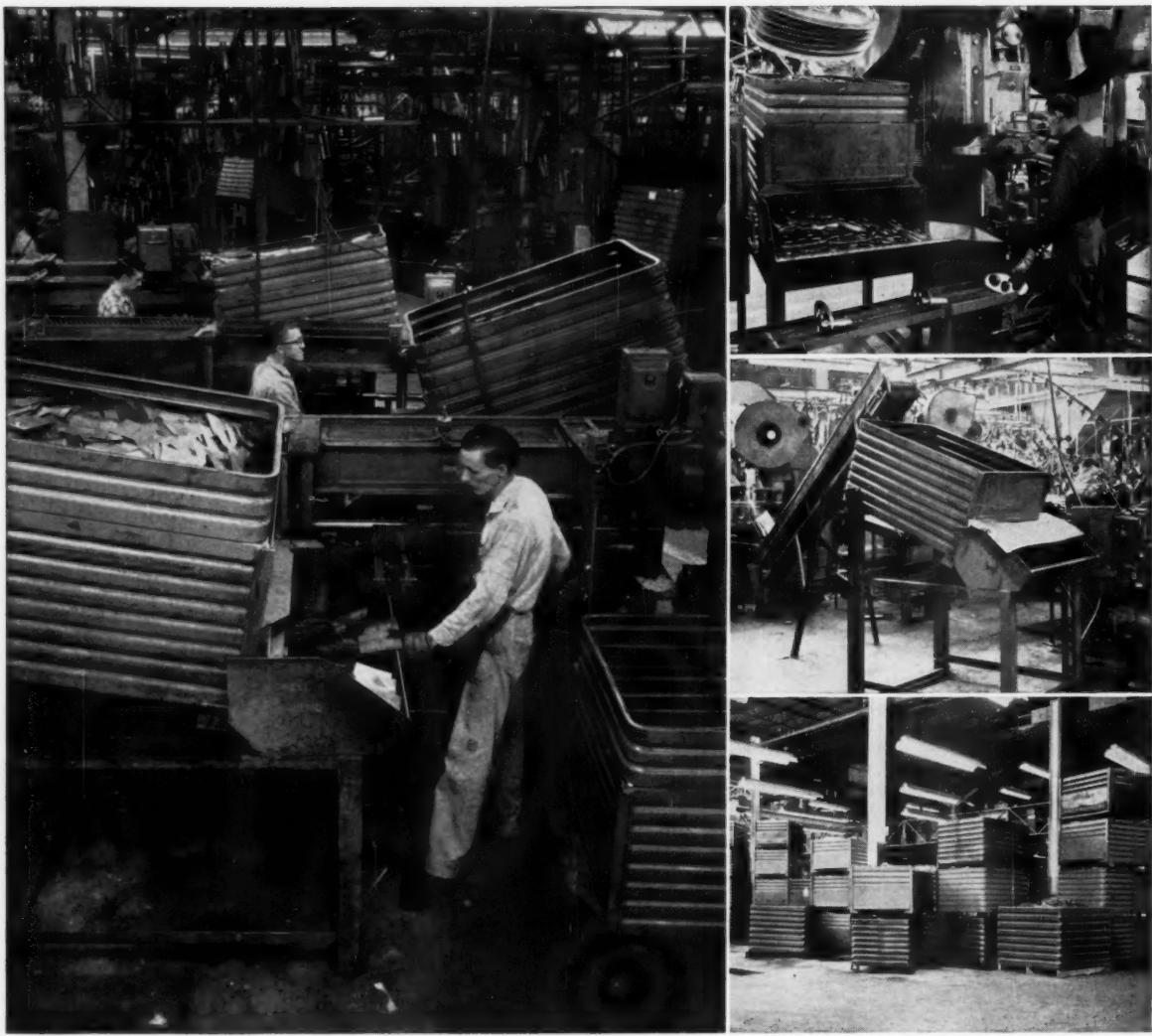
FREE Send for this 28-page, fully illustrated brochure on the new Work Bull and Davis Equipment — including the highly versatile Work Bull 1001. It will show you how to replace single-purpose equipment at a fraction of the cost you normally pay. Ask for Brochure FL-4.

MASSEY-FERGUSON INDUSTRIAL DIVISION

1009 SOUTH WEST ST. • WICHITA 13N, KANSAS



MASSEY-HARRIS-FERGUSON, INC.



Photos courtesy of Arvin Industries, Inc.

Mass Material Handling Flexibility . . . that's what FLOW-MATIC* brings to Arvin Industries, Inc., a volume producing corporation that constantly studies modern handling methods. Reports Arvin: the Powell Flow-Matic* works exceptionally well as a mass handling system. We use it in conjunction with belts and over-head conveyors. We find it equally as efficient as a working inventory storage unit and an "on stream" production hopper.

Arvin is but one of the many mass-production concerns that finds Flow-Matic* *really* simplifies handling; honestly reduces costs. Why not find out about this advanced, yet job proved, method today. There's a Powell distributor near you.

*U. S. Patent:
No. 2762529
Canadian Patent:
No. 543396



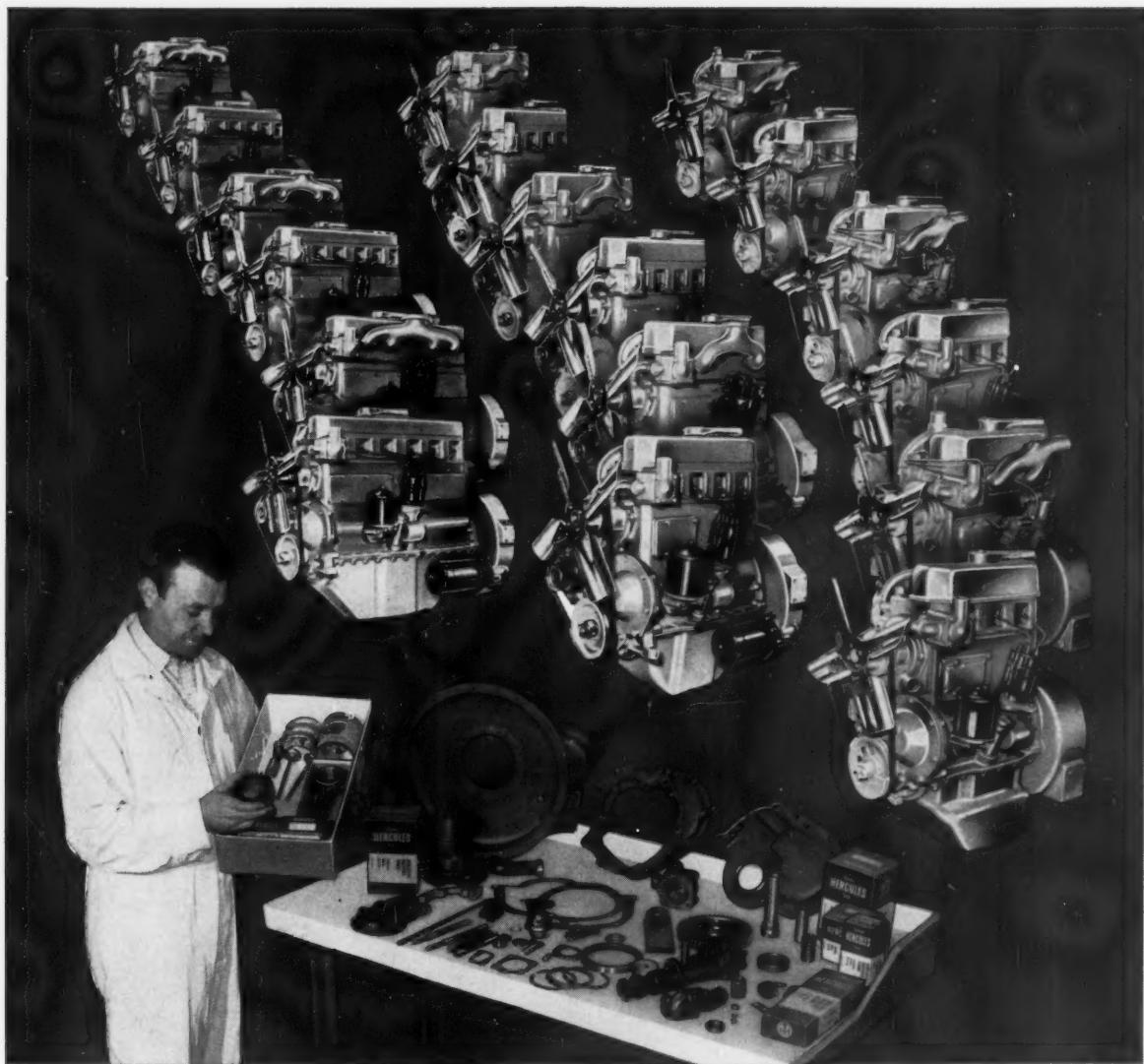
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by The Powell
Pressed Steel Co.

POWELL *flow-matic*[®]
SYSTEMS

The Powell Pressed Steel Co.

Hubbard, Ohio

Circle No. 403 on Reader Service Card for more information



One set of spare parts serves all these 18 HERCULES engines

Here's parts interchangeability to warm a maintenance man's heart! Hercules designed the new DD diesel and GO gasoline engines with the user in mind: succeeded in achieving a unique degree of interchangeability that reduces spare parts requirements for Hercules-powered equipment to a minimum.

Actually, the illustration above doesn't tell the whole story. To do that, we'd have to show 6 power units as well as all 18 models of 3, 4, and 6-cylinder engines available in the DD and GO series—a total of 24 power plants using many of the same wearing parts!

You can take advantage of this maintenance economy by specifying Hercules diesel, gasoline, or LP-gas power for the equipment you buy. If you'd like the full story on these modern engines, write Hercules Motors Corp., Canton 2, Ohio—or call your Hercules distributor: there's one in the Hercules worldwide network near you.



HERCULES

HERCULES MOTORS CORPORATION
Canton, Ohio

Circle No. 359 on Reader Service Card for more information



CATALOGS

offered in

Steel Strapping Protects Pipe Shipments . . . A bracing method using heavy-duty Acme Steel strapping virtually eliminated in-transit damage to cast iron pressure pipe shipped in gondola cars for one user. A number of time-saving, product-protecting ideas are contained in literature available from Acme Steel Products Div., Acme Steel Co.
Circle 303 on Reader Service Card

Saves up to 50% Floor Space . . . is the claim made by the manufacturer for their Flexi-rack shelves which are height adjustable by lift truck in seconds. Details are offered you by Hartman Metal Fabricators, Inc.
Circle 358 on Reader Service Card

Automated Live Storage Racks . . . Can make your storage racks completely automatic or just as much as you can profitably use. Further information is offered by The Alvey-Ferguson Co.

Circle 306 on Reader Service Card

Silicone Insulated Drive Motors Are Standard Equipment . . . on the 5000 and 6000 lb. Automatic platform stacking trucks. They are said to be immune to overload and burnout failures even at 300° and 400°F. Complete illustrated specifications on their Models WL and WLT are offered you by Automatic Transportation Co.

Circle 318 on Reader Service Card

Aluminum Platform Trucks . . . are maintenance free and have fully guaranteed casters. They are non-sparking and non-magnetic. A Data File is offered by Magnesium Co. of America, Tobey Aluminum Div.

Circle 380 on Reader Service Card

Automatic Conveyor Cut-Out . . . For conveyor drives of all types, these units insure continuous operation of conveyors without loss of time caused by sheared drive pins; by automatically stopping conveyor before overload occurs; by eliminating undue shocks to the system. Complete details, sizes, working range, etc. are contained in Catalog 51 published by John Waldron Corp. Circle 429 on Reader Service Card

If You Move Skidded or Palletized Loads . . . of 2000, 3000, 4000, or 6000 pounds, you can save money with American Load-Lift Trucks, so states the manufacturer, The American Pulley Co. Some of the features of these trucks are low initial cost, no flying handles, few moving parts and the skid trucks double as platform trucks. Further information is available from The American Pulley Co.

Circle 308 on Reader Service Card

Overhead Conveyor Guard . . . follows the conveyor line exactly, along rises or dips, and around corners, providing protection wherever needed all along the way. Comes in 8-ft. sections to make installation easy and fast. Light weight wire construction. Completely-fabricated, painted and ready for installation. Full details are available from Tri-State Engineering Co.

Circle 423 on Reader Service Card

Dock Covers . . . completely enclose the space between car and building doorways protecting loading and unloading during bad weather. Prevents accidents. Keeps heat and refrigeration in. 51 different models. Further information is available from CAPCO.

Circle 327 on Reader Service Card

Slotted Angle Framing Material . . . can be used for storage racks, catwalks, supports, guard rails, special purpose tables and stands, scaffolding and many more items. The slots are placed to allow 3/4" vertical and horizontal adjustments to assure the utmost flexibility in meeting design requirements. Two-way pattern of short slots provides sufficient bolts in bearing to assure adequate joint strength. A catalog on Bild-A-Flex is yours for the asking from Republic Steel Corp.

Circle 407 on Reader Service Card

Train Trailers . . . engineered for surplus strength, maneuverability and long, economical service are discussed in a catalog offered by Lansing Co. Also shown are their line of hand and platform trucks.

Circle 371 on Reader Service Card

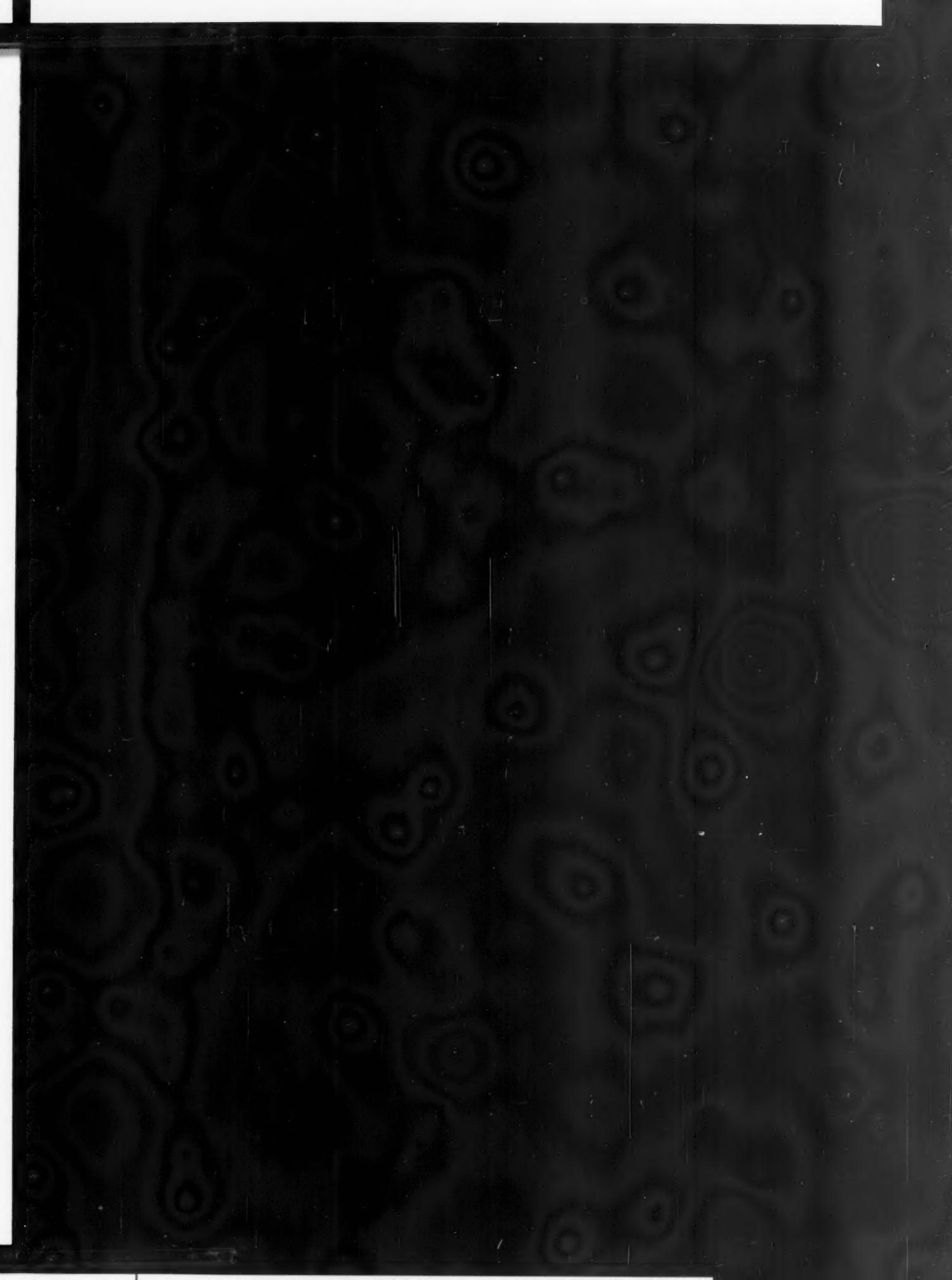
Material Handling Devices . . . such as lifting clamps, twin lifters, drum lifters and tilters, hand grips and drum openers are just a few of the items discussed in the interesting information offered you by Merrill Brothers. Circle 388 on Reader Service Card

Air Hoists . . . powered by a non-sparking axial piston air motor with pendant control are discussed in Bulletin 80 available from Gardner-Denver Co., Keller Tool Div. Sizes from 150 lb. to two tons.

Circle 351 on Reader Service Card

Collapsible Pallet Boxes . . . handle up to 5000 pounds. Collapse when not in use. Quickly assembled. Complete details and prices are available from Bigelow-Garvey Lumber Co.

Circle 321 on Reader Service Card



and BULLETINS

advertisements in this publication

If You Want to Improve Fastening by Stapling . . . then you'll be interested in the free cost-cutting information from Bostitch, Inc. who make 800 different stapling machines and 200 kinds of staples. They can give you information on fastening light metals, corrugated cardboard, cartons, fabric, leather, plastic, wood, roofing and rubber.

Circle 323 on Reader Service Card

Conveyorized Packaging . . . saves up to 70% of handling costs is the claim made by the manufacturer, Metzgar Conveyor Co., for their power belt conveyor. Over-all widths, 18", 22" and 30" with 12", 16" and 24" belt widths. Length to suit. Can be used with gravity roller or wheel conveyors. A catalog is available.

Circle 389 on Reader Service Card

Casters and Wheels . . . These casters and wheels are rust-proofed by zinc plating. All swivel and wheel bearings are factory packed with a high quality grease and Zerk fittings are provided for quick grease-gun lubrication. Also, strong guards assure easy rolling at all times. Further information is available from Darnell Corp., Ltd.

Circle 334 on Reader Service Card

Precision Control of Hoist is Assured . . . by the separate load and motor brakes which operate simultaneously while each alone could hold a capacity load. Safe 24-volt push-button control, low headroom, choice of suspensions, and "in-the-air" serviceability are other Load Lifter features. Further information on the Load Lifter is available from Manning, Maxwell & Moore, Inc.

Circle 381 on Reader Service Card

Pneumatic System for Unloading Granular Material . . . One user installed a two-stage blower unit under a trailer to be used in unloading flour. The combined weight of the two M-D blowers is only 325 lbs. compared with 1300 lbs. of the blowers used in a previous truck installation. It unloads the trailer in about 1 1/4 hours. Full details on their pneumatic conveying installations are offered you by Miehle-Dexter Div., The Christensen Machine Corp.

Circle 391 on Reader Service Card

Parts Interchangeability . . . is one of the features of the Hercules diesel and gas engines. Six power units as well as all 18 models of 3, 4, and 6-cylinder engines available in the DD and GO series use many of the same parts. Full details are available from Hercules Motors Corp.

Circle 359 on Reader Service Card

Hydraulic Pallet Truck Has Skid Adapter . . . With the new Raymond Lightweight hydraulic pallet truck, one man can handle 2000 lb. loads. Offers effortless pallet entry, foot pedal lifting and lowering. The skid adapter is optional equipment and has a hinged superstructure which raises out of the way when handling pallets. Free information is offered by The Raymond Corp.

Circle 405 on Reader Service Card

Ladder Stands . . . special tapered design permits worker to get closer to the job. Special casters retract automatically under the user's weight. Tubular steel frame. All-welded steel construction. A catalog is offered by Aluminum Ladder Co.

Circle 304 on Reader Service Card

Lift Truck Catalog . . . showing trucks for heavy, light and unusual loads for carrying products of every kind, shape and description is offered you by Lift Trucks, Inc.

Circle 373 on Reader Service Card

Silicon Rectifier Battery Chargers . . . plug into any standard single-phase, 15-ampere, 60 cycle, 115 volt outlet. One model charges any 6-cell lead-acid hand truck battery with a capacity ranging up to 450 ampere hours and the other model charges 6-cell batteries with a capacity ranging up to 660 ampere hours. Complete details on the new C & D AutoReg Silicon Chargers are given in Bulletin AR-100/58 offered by C & D Batteries, Inc.

Circle 326 on Reader Service Card

Material Handling Equipment Driving Assemblies . . . and other components, to meet your requirements with units already being manufactured or with components built to specifications are made by Timken-Detroit Axle Div., Rockwell Spring and Axle Co. Complete information is available from the company.

Circle 421 on Reader Service Card

Piggy-Back Battery Charger . . . for lift trucks is said to pay for itself in a short time by eliminating drained batteries. Full details are available from K-W Battery Co.

Circle 368 on Reader Service Card

"Short Cuts to Greater Profits" . . . is the title of a 16-pg booklet on their complete line of shelving units and is offered you by Equipto Div., Aurora Equipment Co.

Circle 453 on Reader Service Card

Use This

READER SERVICE CARD

to obtain information on any item in this issue

New Equipment & Supplies Starting on Page 137
Useful Literature Starting on Page 115

PLEASE PRINT

April 1958. Do not use after 7-15-58

Name Position

Company Kind of Business

Street

City Zone State

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3	28	53	78	103	128	153	178	203	228	253
4	29	54	79	104	129	154	179	204	229	254
5	30	55	80	105	130	155	180	205	230	255
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22	47	72	97	122	147	172	197	222	247	272
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FLOW

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CLEVELAND 15, OHIO

CATALOGS

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New Equipment & Supplies Starting on Page 137
Useful Literature Starting on Page 115

Spray Stencil I
drying and waterp
nine colors. Is al
use. For all stenc
crates, cartons, dru
fabric, concrete or
Full details availa
nolds Ink, Inc.
Circle 409 on Reader

Safety-Step I
Locks . . . The Hi
ladder with Bally
worker a solid non
platform. By stepp
in the front of the
legs are lowered to
these, together with
eling rear casters, l
firmly in place with
another touch of the
retract and the lade
roll to another wo
20-page catalog is
Ballymore Co.
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CLEVELAND 15, OHIO

Mobile Utility
closed storage pre
and protects conten
ed on and off truck
sides permit spacing
you wish. You can
for 30 days. Comple
is contained in Cata
Crescent Metal Pro
Circle 332 on Reader

Short Case Se
folds and seals eith
and bottom flaps in
automatically. Spec
cases a minute. We
tion. Details, floor p
fications from A-E
Machine Corp.
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1	26	61	76	101	126	151	176	201	226	251	276	301	326	351	376	401	426	451	476
2	27	62	77	102	127	152	177	202	227	252	277	302	327	352	377	402	427	452	477
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25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500

"The Science of
Shelf Storage" is
catalog offered by F
Mfg. Co. It shows
line of rotabins, a
warehouse racks,
specialties.
Circle 350 on Reader

CATALOGS AND BULLETINS

Continued

ray Stencil Ink . . . is quick and waterproof. Comes in colors. Is always ready to for all stenciling on boxes, cartons, drums, steel, wood, concrete or other surface. Details available from Rey-Ink, Inc.

409 on Reader Service Card

Safety-Step Ladders with . . . The Hi-Boy safety step with Ballylock gives the a solid non-moveable work form. By stepping on the pedal in front of the ladder, two are lowered to the floor and together with the non-swivel casters, hold the ladder in place while in use. With a touch of the pedal the legs and the ladder is ready to another work location. A catalog is available from Moore Co.

319 on Reader Service Card

Mobile Utility Cabinets . . . storage prevents pilferage of contents. Easily load and off trucks. Corrugated permit spacing to any height. You can try one free days. Complete information is in Catalog A-33 from Metal Products, Inc.

332 on Reader Service Card

Cart Case Sealer . . . Glues and seals either or both top bottom flaps in one operation, automatically. Speeds up to 30 a minute. Welded construction, floor plans and specifications from A-B-C Packaging Corp.

455 on Reader Service Card

The Science of Economical Storage is the title of a offered by Frick-Gallagher Co. It shows their complete of rotabins, steel shelving, use racks, counters and ties.

550 on Reader Service Card

Over 4½ Million Parts in Stock for Emergencies . . . Clark Equipment Co. has opened a new Central Parts Division in Chicago with over 4½ million stock parts which can be air shipped to your local Clark dealer within 24 hours, if the part is not obtainable locally. The dealer's request is processed immediately through a punch-card system, completing the order fast and efficiently. Illustrated literature describing both the direct benefits and the methods of operation of this Division is available.

Circle 428 on Reader Service Card

Removes Chips, Turnings and Borings Continuously . . . The May-Fran Chip-Tote permits the continuous operation of machine tools by eliminating downtime for scrap removal. Chip-Tote conveyors are available in a wide range of sizes to serve practically any type of size of machine tool. Conveyor speed is adjustable to meet your needs. Bulletin MF-640 gives complete information and is available from May-Fran Engineering, Inc.

Circle 383 on Reader Service Card

Timesavers for Shipping Departments . . . is the title of a bulletin offered you by Fastener Corp. It discusses the safe, accurate, automatic way to streamline your fastening methods by automatic stapling. It's yours for the asking.

Circle 346 on Reader Service Card

Factory Retreads for Molded-On Rubber Wheels . . . The old rubber is burned off, wheels are shot blasted and thoroughly inspected and new rubber carefully weighed out and molded per factory specifications. Reconditioned wheels are returned to the dealer for delivery to the user. Full information on this service is offered by Goodyear Tire & Rubber Co., Inc.

Circle 356 on Reader Service Card

The Truck With the Boarding House Reach . . . is what The Raymond Corp. calls their new Reach-Fork truck. The Reach-Fork eliminates wasteful 10 to 12-ft aisles and permits tiering in space-saving 6-ft. aisles. No special racks or pallets are required because it operates from the aisle without straddling bottom pallet. A bulletin giving further information is available from the company.

Circle 406 on Reader Service Card

General Purpose Belt Conveyors . . . furnished in a wide range of belt widths and section lengths. Can be assembled easily from standard parts furnished from stock. Drive unit may be located at the end, or at any convenient point beneath the conveyor. End roller assemblies, take-ups, and three-pulley devices are all standardized and easily installed. Bulletin G.P. 53 and Catalog 856 give complete information and are offered by Mathews Conveyor Co.

Circle 382 on Reader Service Card

New Active Material . . . In Edison storage batteries is said to add extra years of life to their batteries. Also, their new automatic charge control is said to assure a dependable low-cost way to battery economy by eliminating excessive over-charge. It eliminates the guess work from charging and is no bigger than a man's hand. Further information is available from McGraw-Edison Div., Thomas A. Edison Industries.

Circle 45 on Reader Service Card

"How to Plan and Install Your Own Conveying System" . . . is the title of a bulletin offered you by A. B. Farquhar Div., The Oliver Corp. Other bulletins available discuss their Roll-Free gravity conveyors, Ve-Be-Veyor aluminum power belt conveyor and bulk handling conveyors.

Circle 345 on Reader Service Card



Flexible Barrier Material . . .
Fibrein industrial packaging papers are said to provide low-cost protection for large products and small—odd shaped and even shaped—crated or in boxes. Available in asphalt and non-asphalt laminates, flat and creped krafts. A sample and a helpful packaging booklet are offered you by American Sisalkraft Corp.

Circle 309 on Reader Service Card

Portable Loading Platform . . . The Electro-Loader can be bolt-anchored to the floor for permanent use or equipped with casters for fast movement anywhere in the plant. The platform is of checkered steel plate reinforced with steel beams to stand up under heavy impact loads of hand or power-operated trucks. Detailed information is available from Globe Hoist Co.

Circle 354 on Reader Service Card

Magnesium Dockboards . . . Can be set in place in seconds by one man. Quickly locks into place. Won't slip or shift. Non-slip tread allows safe, full-speed loading. A special Dockboard Facts File is offered by Magnesium Co. of America which gives full information.

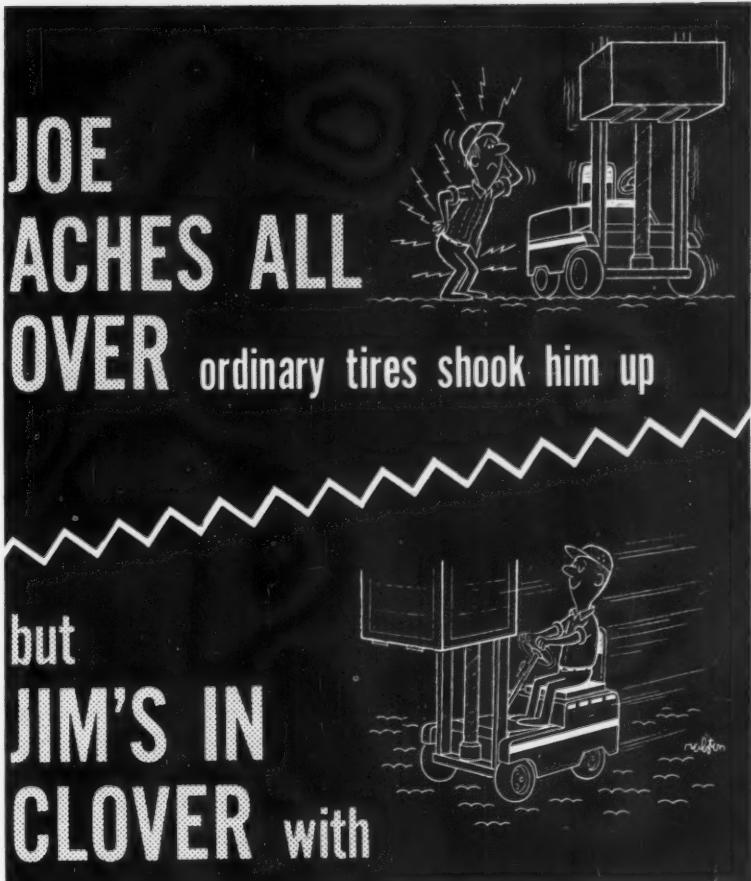
Circle 379 on Reader Service Card

Interchangeable Conveyor Rollers . . . Spring-loaded snap-in rollers make the new Rapistan gravity roller conveyor exceptionally versatile. Rollers are easy to repace in the frame while the conveyor is installed and can be removed or inserted without bolts or wrenches. Further information is available from The Rapids-Standard Co., Inc.

Circle 14 on Reader Service Card

Facsimile Labels Can't Come Off . . . because you print them directly on the cartons. Saves cost of labels. Said to be faster than brush stenciling. Cuts shipping losses. Stencils are die-cut with facsimile of your label. A bulletin on the Weber-Facsimile Label System is offered by Weber Marking Systems Div., Weber Addressing Machine Co.

Circle 452 on Reader Service Card



U. S. ROYAL INDUSTRIAL TIRES

5½-times more cushioning . . . better traction . . . longer wear!

Why let floor irregularities shake and fatigue your drivers, shift your loads, perhaps even damage your vehicles? Tests prove the U. S. Royal Innacush® delivers up to 575% more cushioning against impact—plus extra traction and extra wearability that can mean big money savings to you!

U. S. Royal Tires

U. S. ROYAL Innacush — the original cushion solid—softest ride, longest wear

U. S. ROYAL Grip-Matic — top traction choice in industrial pneumatics



Ask for the "U. S. Industrial-Tire Manual! Write J. A. Watson, Mgr., Industrial Tire Dept.



United States Rubber

Rockefeller Center, New York 20, N. Y.

In Canada: Dominion Rubber Co., Ltd.

Circle No. 426 on Reader Service Card for more information

CATALOGS

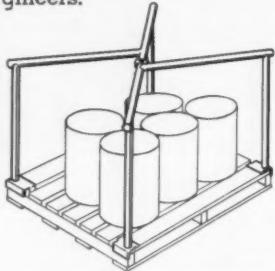
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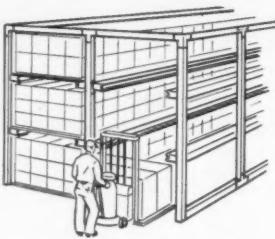
Has it ever occurred to you that you may have sufficient space—if you can put it to proper use?

Let **PALTIER** trained Materials Handling Engineers take a look. With properly selected equipment and flow of materials your present storage may be adequate! **Storage equipment COSTS LESS than NEW FLOOR SPACE!**

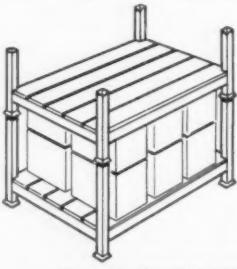
PALTIER STORAGE SYSTEMS are designed jointly by industrial architects, structural and materials handling engineers.



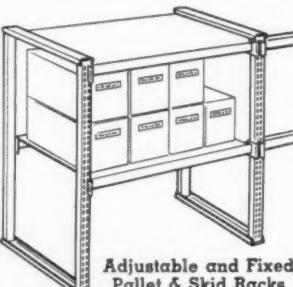
Tiering Pallet Hardware
for standard pallets



Drive-In Racks
for Bulk Storage



Portable Stacking Racks
for practically every use



Adjustable and Fixed
Pallet & Skid Racks

Also live racks, palletless "Finger" racks, and other specially built items to solve your specific problems.

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THE PALTIER CORPORATION

Designers, Engineers and Manufacturers
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DISTRIBUTORS IN PRINCIPAL CITIES

Circle No. 402 on Reader Service Card for more information

Reduces Shock to Equipment and Loads . . . By reducing shock to cylinders, hose, packings and other major parts, the Greerolator is said to cut replacement and maintenance costs. Heavier and larger loads can be carried faster and more safely. Lessens the tiring effects of vibrations for greater operator efficiency and comfort. Further information is available from Greer Hydraulics, Inc.

Circle 450 on Reader Service Card

Build Your Own Racks, Shelving and Desks . . . with Dexion slotted angle. The only tools needed are a wrench and a Dexion cutter. Cutting marks are spaced every three inches on the material to allow quick and easy measuring. Full details are offered by Acme Steel Co., Dexion Div.

Circle 302 on Reader Service Card

One Man Car Door Opener

. . . The average time required by one man to open or close a boxcar door with the Nolan Model H is 20 seconds or less, the manufacturer claims. Just a few quick pulls on the anchor chain opens the most stubborn door in a jiffy. Full details available from The Nolan Co.

Circle 398 on Reader Service Card

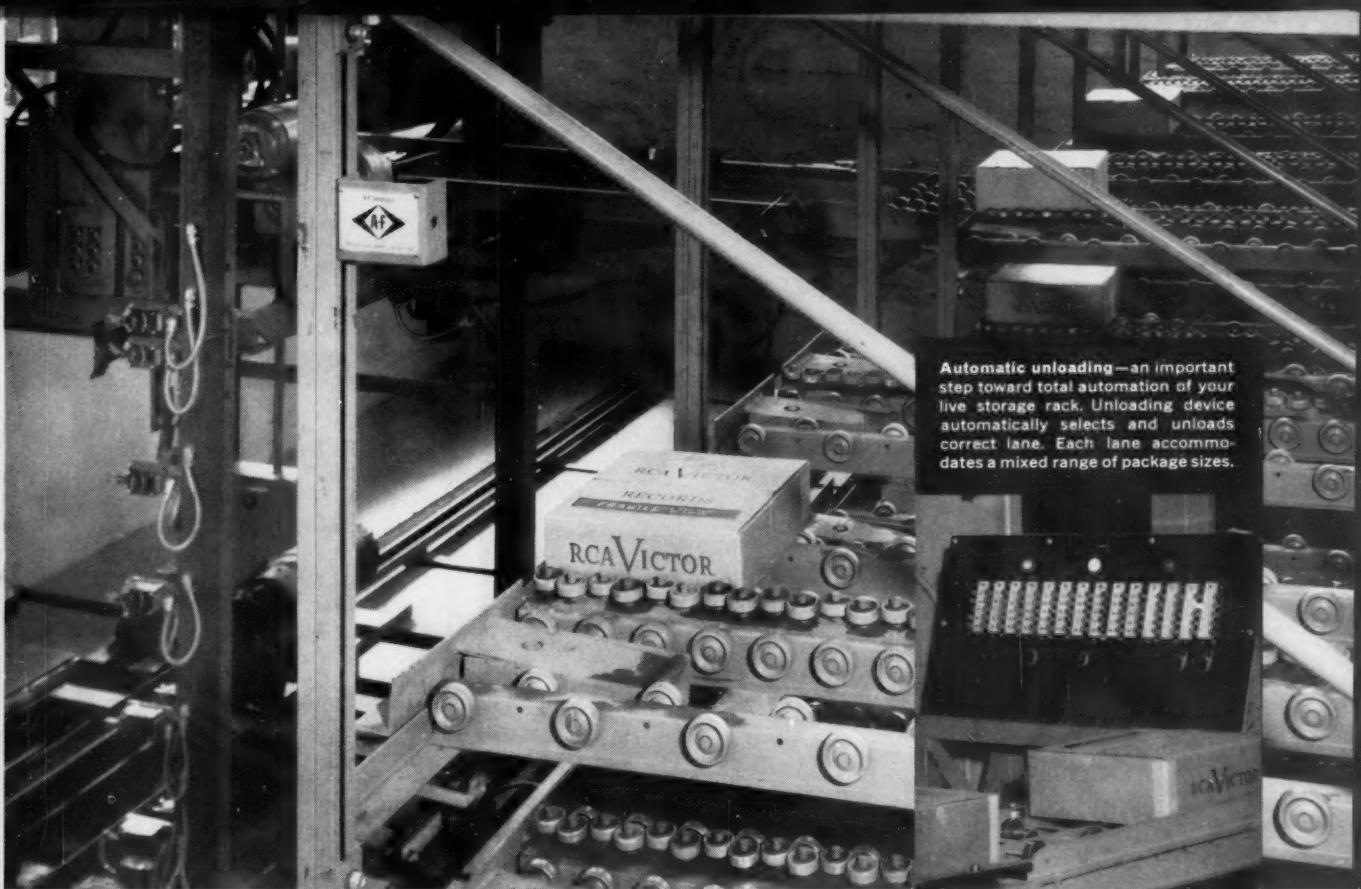
Wire Rope Slings . . . for every lifting need, in a wide range of sizes and capacities are discussed in a sling book available from John A. Roebling's Sons Corp.

Circle 410 on Reader Service Card

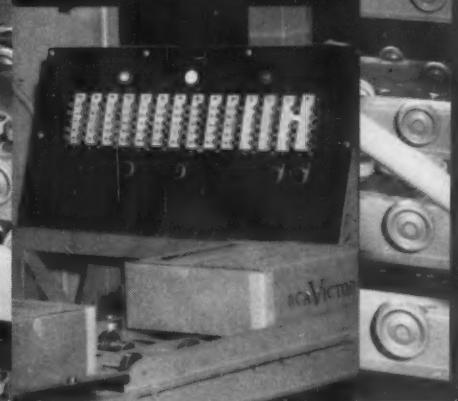
Regulates Conveyor Traffic

. . . The Ultimate Traffic Cop is used where two sections of power belt live roller or chain conveyor converge. It permits one case, can, carton or box to pass on one line while the other line is stopped by the arm. Further information is available from Island Equipment Corp.

Circle 364 on Reader Service Card



Automatic unloading—an important step toward total automation of your live storage rack. Unloading device automatically selects and unloads correct lane. Each lane accommodates a mixed range of package sizes.



Push buttons actuate removal from storage. Same operation can be accomplished by tape or card control, if desired.

A-F LIVE STORAGE RACKS

Totally automatic...or "push button"...or as much automation as you can profitably use

Your AF Live Storage Rack *can be* totally automatic—even to the point where packages actually dictate their own route and "find" their own storage—then unload themselves after a specified period of time, as needed. The rack shown is unloaded by push-button remote control. One man (or woman) removes items from storage without moving from the control console. This same operation can be actuated by tape or card control if desired.

Perhaps your plant is ready for this kind of automation—or perhaps it's still a few years away. The important point is that when you invest in your live storage rack, you have purchased the basic element for your future automatic warehouse. It will give you great benefits today—whether loaded and un-

loaded by hand, by lift truck, or by other mechanical devices. Then, at a later date, it can be converted—simply by adding automatic loading and/or unloading devices.

Whatever degree of automation you specify, the fundamental advantages of live storage will be yours from the outset—orderly storage, elimination of needless walking and confusion, fool-proof first-in first-out control, space saving and many other benefits.

Our engineers will gladly survey your present storage facilities, make suggestions on cost-saving improvements and submit a proposal. In addition, we will help you determine just how automatic your system should be—for maximum benefit to you today and tomorrow. Write today for complete details.



A-F founded the package conveyor business in 1901

Circle No. 306 on Reader Service Card for more information

A-F Conveyors

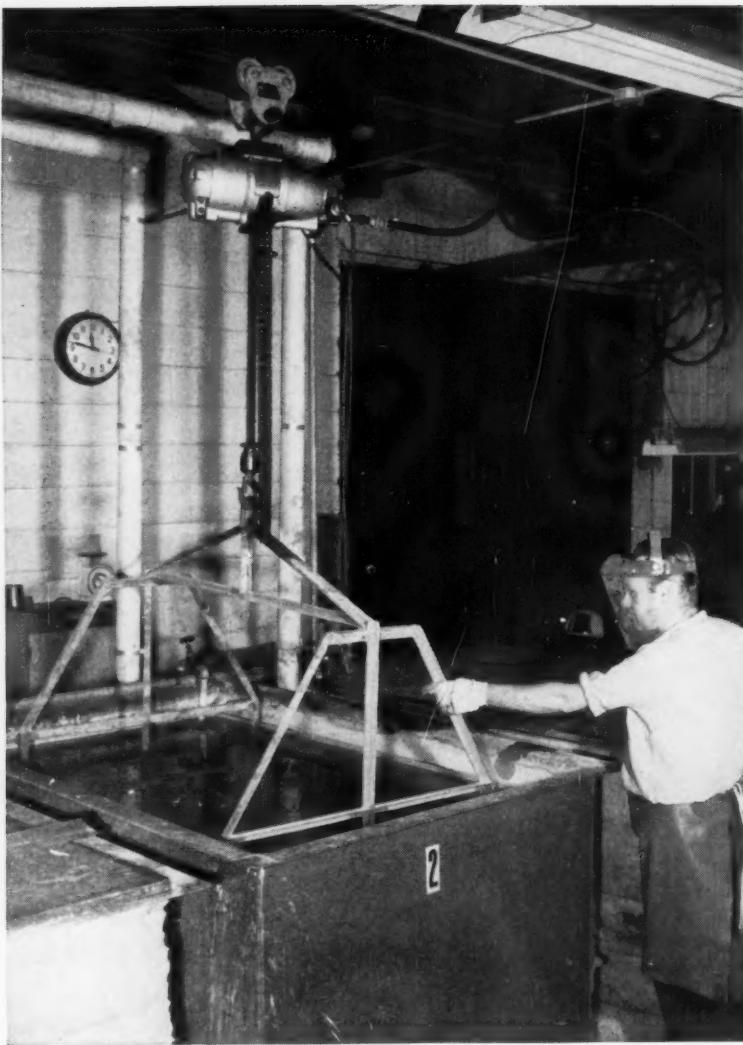
Custom Engineered Conveyor Systems

Packaged Conveyors—Wheel, Roller, Belt, Trolley

Pan and Rack Washers

Metal Cleaning and Processing Equipment

The Alvey-Ferguson Company, Dept. UD-4, Cincinnati 9, Ohio



Faster, safer acid baths use Gardner-Denver air hoists

In the application shown above, trays of parts for air-conditioner condensers are dipped in acid and water baths during processing. Using a Gardner-Denver one-ton air hoist with pendent control, operator has complete control as tray is lowered *swiftly and steadily* into bath.

Hoist protects operator two ways. First, there's no chance of electric shock when working near fluid. Hoist is powered by a non-sparking axial-piston air motor. Second, pendent control allows operator to stand away from splashing acid.

Keller air hoists in sizes from 150 lb. to 2 tons. Write for Bulletin 80.

ENGINEERING FORESIGHT—PROVED ON THE JOB
IN GENERAL INDUSTRY, CONSTRUCTION, PETROLEUM AND MINING



GARDNER DENVER

Gardner-Denver Company, Quincy, Illinois

In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario
Circle No. 351 on Reader Service Card for more information

CATALOGS

Continued

"Gas vs. Electric Trucks"

... is the title of a booklet published by The Elwell-Parker Electric Co. in which they discuss the merits of their electric trucks. A copy is yours for the asking.

Circle 342 on Reader Service Card

"To be Read Before Making a Decision" ... is the title of a check list of important considerations in planning an efficient, economical handling system. It's offered you by the Rapids-Standard Co., Inc.

Circle 13 on Reader Service Card

Mobile Aluminum Storage Racks ... speed trips in and out of storage. Carry more payload, cut costs, save time and labor. With light, medium, or heavy duty casters. A free 30-day trial is offered you by Crescent Metal Products, Inc.

Circle 331 on Reader Service Card

Walkie Trucks ... transport and stack loads in light floor areas and move between floors on limited capacity elevators. They save time and their operating costs are small. A lift truck bulletin giving further information is offered by Economy Engineering, Inc.

Circle 339 on Reader Service Card

Electric Fork Lift Truck

The Model H Spacemaster has rear wheel drive, turns in a 56 1/4" radius, and right angle stacks pallet loads in nine foot aisles. Circular 37 on the new Model H gives all the necessary data and is offered by Lewis-Shepard Products, Inc.

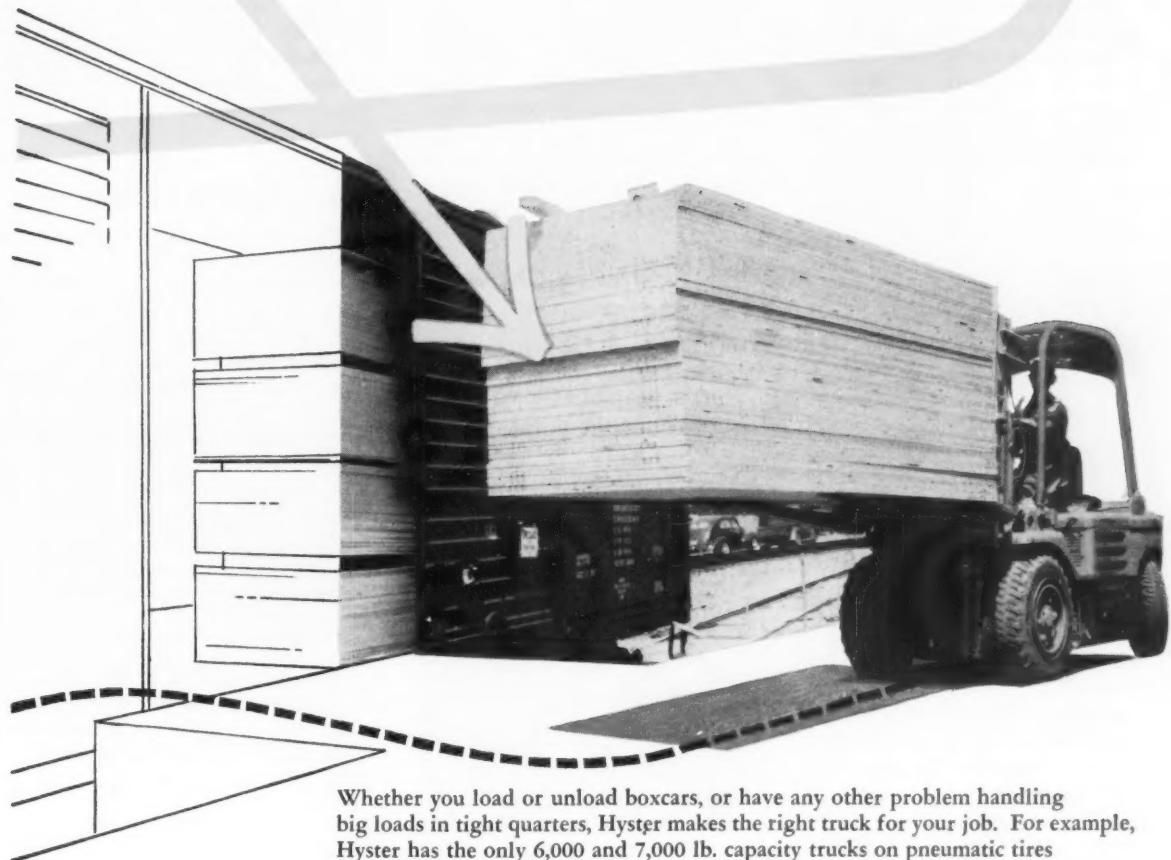
Circle 372 on Reader Service Card

25% to 56% Longer Operating Time

from your present trucks with the new Exide-Ironclad Batteries is the claim made by Exide Industrial Div., The Electric Storage Battery Co. Literature giving further information and details is available.

Circle 340 on Reader Service Card

HOW TO GET A **BIG** LOAD OUT OF A **TIGHT** SPOT



Whether you load or unload boxcars, or have any other problem handling big loads in tight quarters, Hyster makes the right truck for your job. For example, Hyster has the only 6,000 and 7,000 lb. capacity trucks on pneumatic tires that can operate *inside* a boxcar.

Power steering, standard equipment on the 6,000 to 8,000 lb. capacity models, combined with extremely short outside turning radius gets these trucks in and out of tight spots with minimum operator-effort and maneuvering.

If you have "tight spots" in your operation, be sure you see the Hyster 60, 70 and 80 in action. Big brakes, single-lever hoist and tilt control, large pneumatic tires and powerful engines, plus a wide range of job attachments offer really efficient performance and service.

Other Hyster pneumatic tired lift trucks range in capacity from 2,000 to 20,000 lbs.

CONSULT YELLOW PAGES
FOR NEAREST HYSTER
DEALER

Ask your dealer for a demonstration or write to HYSTER COMPANY, BOX 847, DANVILLE, ILLINOIS

HYSTER®

INDUSTRIAL TRUCK DIVISION



MOVING AHEAD WITH INDUSTRY

FACTORIES:

DANVILLE, ILL. • PEORIA, ILL. • PORTLAND, ORE. • GLASGOW, SCOTLAND • NIJMEGEN, THE NETHERLANDS • SAO PAULO, BRAZIL • SYDNEY, AUSTRALIA (licensee)

Circle No. 361 on Reader Service Card for more information

APRIL, 1958



HANDLING 'ROUND THE COUNTRY

New Plastic Starts Big!

Goodyear Tire & Rubber Co. is going to build a \$9 million plant to manufacture its new plastic, Videne. E. J. Thomas, Goodyear president, described Videne as a polyester laminating film that can be adhered under heat and pressure to a wide variety of end products in a number of industries.



"It is not difficult to visualize future homes, automobiles, furniture and appliances protected and beautified with some form of this new plastic," said Thomas. "Based on our research from the early 1940's and testing experience in commercial fields since 1950, we believe Videne A will breathe new life into current markets. We also think it will open new markets for those industries supplying products which require surface protection and want added beauty."

Here are some of the ways the Goodyear president says that Videne can be used. It can be laminated to glass, fabric, cotton, wool, Dacron, Orlon, nylon, and Vinyon fabrics without use of adhesives. When laminated to fabric, the film intensifies background colors besides giving a protection surface. As a surfacing for plywood, the new plastic brings out depth of grain and acts as a protective cov-

ering. Also, it can be used as the adhesive between wood plies at the same time the surface film is applied.

A limited amount of Videne is being produced at Goodyear's Akron plant. Two film finishes, clear and satin, in gauges from two to seven and one-half mils, are on the market. The new Goodyear plant will be located on 300 acres in Apple Grove, W. Va.

Big Handling Show in London

Earl's Court, London, is where the Mechanical Handling Exhibition will be held May 7-17. It is sponsored by the British journal, "Mechanical Handling." Earl's Court is said to be the largest single-span exhibition hall in the world. There are 400,000 square feet of floor space and an outside demonstration area for putting



gasoline and diesel driven equipment through its paces. (See photo of 1956 Exhibition.)

Tractor To Perform in Japan

The U. S. Department of Commerce has invited Barrett-Cravens Co. to exhibit the Guide-O-Matic tractor at the International Trade Fair in Osaka, Japan (April 12-27). The Guide-O-Matic is an electronic industrial tractor which needs no operator. A guide wire transmits signals which are picked up by a "sniffer box" on the trac-

tor. This steers, stops and starts the tractor. The guide wire may be embedded in the floor or held by a retaining tape. The Guide-O-Matic tractor is now in regular use throughout the United States in many industries which include warehouses, mills and plants.

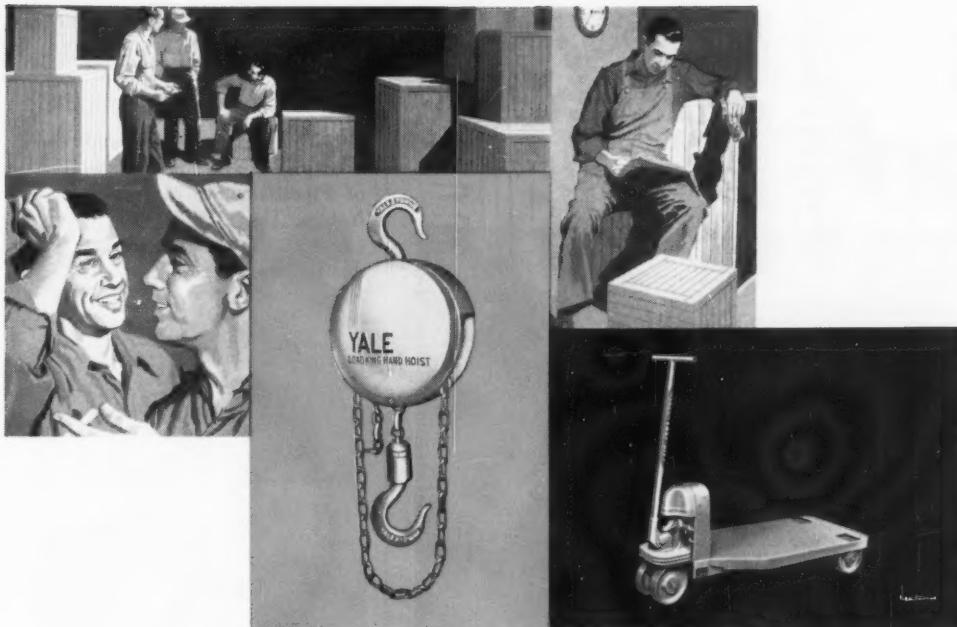
New Appointments

The **Yale & Towne Manufacturing Co.** has named several new distributors for its Trojan line of pneumatic-tired tractor shovels. The **Texas Machinery & Equipment Company, Inc.** (Amarillo) will be distributor for 80 countries of west Texas. South Dakota will be covered by **Pecaut Equipment Co.** (Sioux Falls). The **Swaney Oil & Equipment Co.** (Fort Dodge) will handle the northern half of Iowa. Most of Montana will be covered by **Normount Equip. Co.** (Great Falls).

Bond Foundry & Machine Co. announces that **Green-Penny Co.** of Los Angeles has become a warehousing distributor of Bond Truck Casters for Southern California.

Marvel-Schebler Products Division (Borg-Warner Corporation) is expanding in the propane carburetor field. Marvel has acquired designs and equipment from the **Century Gas and Equipment Co.** Frank Pilling is new manager of the LP-G operations and Jack Crossman is sales manager of Century Products.

The **G & H Distributing Co.** (Sioux Falls) will be sales representative for **Nutting Truck and Caster Co.** in the Sioux Falls



For lack of a single hand hoist or hand truck—production time can be lost



Yale's new plant will keep you supplied...



To keep industry production moving and costs down—Yale has opened a multi-million dollar plant devoted entirely to the manufacture of Hand Trucks, Hand Hoists, Plain and Geared Trolleys and Pul-Lifts. Strategically located at Forrest City, Ark., this new Yale Plant—utilizing the most modern equipment and methods—assures industry that these cost-cutting tools, so necessary to keep production moving, are readily available.

YALE*

REG. U. S. PAT. OFF.

YALE & TOWNE

INDUSTRIAL LIFT TRUCKS AND HOISTS

GASOLINE, ELECTRIC, DIESEL & LP-GAS INDUSTRIAL LIFT TRUCKS • WORKSAVERS
WAREHOUSERS • HAND TRUCKS • HAND AND ELECTRIC HOISTS

YALE MATERIALS HANDLING DIVISION, THE YALE & TOWNE MANUFACTURING CO. MANUFACTURING PLANTS: PHILADELPHIA, PA.; SAN LEANDRO, CALIF.; FORREST CITY, ARK.

Circle No. 439 on Reader Service Card for more information

Ask Standard

how to
cut costs with
conveyors



Although over 19,000 items are stocked, conveyors permit fast and efficient assembly, checking and packing — orders ride safely in durable, lightweight tote boxes.

Milwaukee wholesale drug firm ups order-filling 50% with 3-floor conveyor system

WITH conveyors, The F. Dohmen Company, Milwaukee, Wisconsin, designed a system which has permitted them to fill upwards of 50% more orders per day . . . reduce to a minimum, excessive overtime costs . . . reduce errors, delays and merchandise damage. Standard belt and roller conveyors connect every department in the firm's three-story warehouse.

This installation is typical of what Standard can do to solve material handling problems. Standard designs and builds permanent and portable systems and units, using roller, belt, slat, chain, pushbar or sectional conveyors — power or gravity; also spiral chutes and pneumatic tube systems.

For complete facts, consult STANDARD CONVEYOR COMPANY, General Office: North St. Paul 9, Minnesota. Sales and Service in Principal Cities.



Floor-to-floor route of conveyor system assures minimum wasted motion by employees. Above, "close-out" checker makes final inspection of orders.



For details on Standard Conveyors of all types, contact the Standard representative listed in your classified phone book or write direct. Ask for Bulletin A-4.



Circle No. 418 on Reader Service Card for more information

HANDLING 'ROUND THE COUNTRY

Continued

territory. This includes South Dakota plus the Minnesota counties of Pipestone, Murray, Rock and Nobles. The G & H Distributing Co. will handle the complete industrial and institutional line of



Roy O. Goodale

Nutting floor trucks, casters and wheels. Roy O. Goodale is the owner and manager of the company.

American MonoRail Co. announces its appointment as distributor for Sage Equipment in the Los Angeles area. W. (Bill) M. Kelly, formerly with the Landahl



W. M. Kelly

Conveyor Division of American Monorail in Cleveland, takes over as sales engineer for the complete line of Sage Conveyors. He will be located at the District Sales Office in Compton.

Truck Safety School

Every week in Philadelphia material handling engineers, supervisors, safety engineers and truck operators meet at the Naval Aviation Supply Depot. Here training sessions in industrial truck



safety are sponsored by the Safety Council of the Chamber of Commerce of Greater Philadelphia, in cooperation with the Philadelphia chapter of the American Society of Safety Engineers and the Naval Depot. The courses last eight weeks, until April 9. Given for five years, these safety sessions have won an award from the National Safety Council. Exide Industrial Division of the Electric Storage Battery Company and the Yale & Towne Mfg. Co. are lending equipment for the courses.

Pallet Standardization News

Word comes from the National Wooden Pallet Manufacturers Association about a project it has been working on for almost four and one-half years: standardization of pallet sizes for shipping purposes within the continental limits of the United States. This project is known as Sectional Committee MH-1 on Pallet Standardization, and is sponsored jointly by the American Standards Association, Society of Industrial Packaging and Material Handling Engineers, and the American Society of Mechanical Engineers. The Committee recently held a meeting in New York at which it was decided to put the proposed standards to a vote at an early date for possible acceptance as an American Standard. Pallet sizes to be voted on are: 24 x 32, 32 x 40, 36 x 42, 32 x 48, 36 x 48, 40 x 48, 48 x 60, 48 x 72, 36 x 36, 42 x 42, 48 x 48.



HOW MANY WAYS CAN WACO-SPAN ALUMINUM DOCK BOARDS HELP YOU?

They'll save you Money—in overall low-cost . . . in man-hours of handling . . . in injury decreases . . . length of service. They'll save you Time—in loading, in maintenance (they're maintenance-free—need no painting) Waco-Span Aluminum Dock Boards may be repaired "on the spot" — no need for a factory repair as with other alloys. They'll add to the effectiveness and efficiency of materials handling. Put them to work for you.



Write for Representative in Your Area

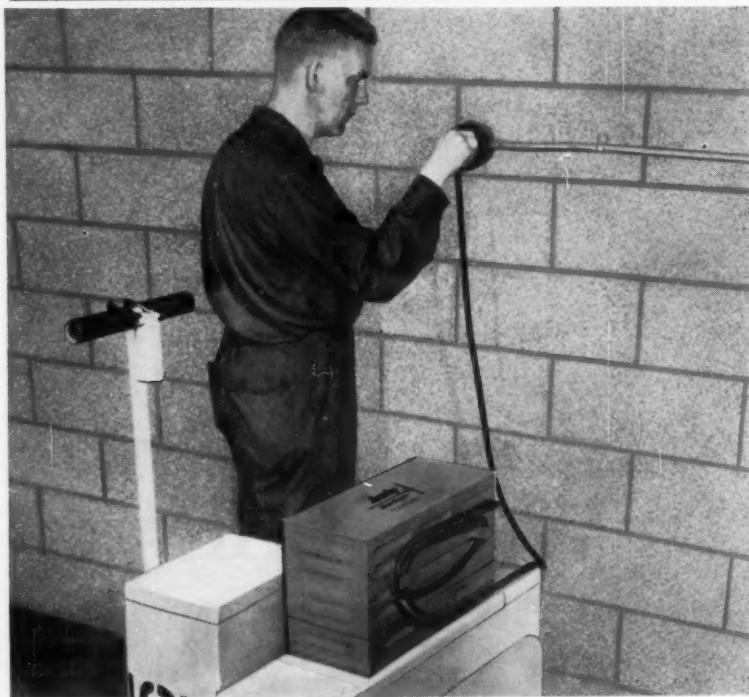


**WASHINGTON ALUMINUM
COMPANY, INC. DEPT. 24
BALTIMORE 29, MD. • CIRCLE 2-1000**

Circle No. 430 on Reader Service Card for more information

(Advertisement)

NEW TRUCK BATTERY CHARGER IS COMPLETELY AUTOMATIC



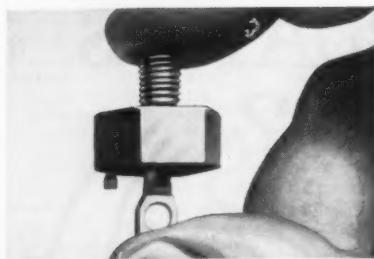
C & D BATTERIES, INC. BRINGS OUT NEW LINE OF *AutoReg* * SILICON CHARGERS

Two new, single-phase, constant d-c voltage silicon rectifier battery chargers have been introduced by C & D BATTERIES, INC., manufacturers of *Slyver-Clad*® industrial truck batteries. The new chargers, called *AutoReg**, allow plants, warehouses, and shippers to take advantage of the latest materials handling methods without having to rewire their electrical power facilities.

The compact chargers plug into any standard single-phase, 15-ampere, 60-cycle, 115 volt convenience outlet. The smaller model charges any 6-cell lead-acid hand truck battery with a capacity ranging up to 450 ampere hours. The other model charges 6-cell batteries with a capacity ranging up to 660 ampere hours.

* Trademark

Uses New Silicon Rectifier



Heart of the new charger is a silicon rectifier. It has no known aging characteristics and thus eliminates aging taps. This means adjustments to the charger after being in use for some time are not required.

The inherent design of the charger prevents harmful overcharging. Turning a simple, synchronous timer mechanism places the charger in operation and automatically takes the unit off the a-c line in 16 hours or less.

Convection cooled, the new line of C & D *AutoReg* chargers require no maintenance. A direct short circuit across the output terminals merely causes the voltage to drop to zero. Flow of reverse current from the battery when a-c power is off is prevented by the silicon rectifying element itself.

CAN BE WALL MOUNTED

The new chargers are small, compact and only a fraction of the size of conventional charging equipment. They can be wall mounted near any standard convenience outlet, or mounted directly on top of a C & D 12-volt truck battery. To charge, simply plug the battery into the charger, then plug the a-c leads into the outlet and set the timer. D-C voltage output is held constant over a \pm 10% variation in a-c input.



Literature Available.
Complete details on the
New C & D *AutoReg* Silicon
Chargers are given in
Bulletin AR-100/58. Write for
Your Copy Today.

C & D
AutoReg *
Silicon Chargers

A PRODUCT OF C & D BATTERIES, INC.
OF CONSHOHOCKEN, PA. . . . ATTICA, IND.

MANUFACTURERS OF *Slyver-Clad*® INDUSTRIAL BATTERIES

BATTERIES FOR COMMUNICATIONS, CONTROL AND AUXILIARY POWER

PLASTICAL® AND PLASTICLINE®

Circle No. 326 on Reader Service Card for more information

FLOW



Handling in 9 of the Nation's Safest Plants

THIS ISSUE proves again, that a plant with a good safety record is almost certain to have good material handling.

It is a well known fact that about one of every three industrial accidents involves handling. Strains and over-exertion from improper lifting, carrying, pushing, pulling and stacking are top causes of injuries. Improvement of handling—mechanization of manual jobs, replacement or repair of worn equipment, elimination of handling hazards in and around buildings—is certain to reduce accidents.

It balances: Good handling = Safety.

When the idea for this issue was suggested, FLOW sought help from the nation's leading safety magazine, OCCUPATIONAL HAZARDS. They gave enthusiastic encouragement.

"Such an issue" they said, "would be of great value to American Industry. Safety is so big, yet so personal and vital, that it needs constant attention of every employee in every plant. In material handling, that need is especially great."

Finding companies with good safety records was easy. We chose a number of plants which had won National Safety Council Awards. Nine were selected for this issue and were visited by FLOW editors. They are the companies described in each of the following articles. Their safety records speak for themselves.

You be the judge of their material handling.



BEFORE: The receiving dock was a potential safety hazard. Manual handling of goods resulted in these dangerous stacks.

Planned Handling Is Safe Handling

DOES material handling play a big part in winning safety awards? Take the case of Dow Chemical Company's Midland Division. It won the National Safety Council's Award of Honor in 1952, 1953, 1954 and two in 1956 (one based on the yearly safety record and the other on 3,000,000 man-hours without accident). How important was handling in the Midland Division's safety program? C. H. "Clem" Wolf, Supervisor of Material Handling Engineering, answered the question this way:

"I think the word 'mechanization' explains our safety record best. In the chemical industry we've always been leaders in hands-off handling, and it shows up in fewer accidents.

"You can see what I mean by looking at our company's material handling policy. We ask four questions about a handling system before we install it: Will it boost output? Cut cost? Lessen fatigue? Promote safety? Most systems do all four. But we'll set one up if all it will do is help the workers' health and safety."

A good example was the job in which sixty 55-gallon drums had to be filled every day. It was a one-man job, but a back-breaker. The operator had to take the empties from storage, fill them and quarter-roll the full drums to storage. Even though one operator could keep up with the job, the company put

in roller conveyors to save the wear and tear on the man. The operator now rolls empties with ease to the filler and rolls the full drums to the end of the conveyor where they're picked up by a fork lift truck.

"This fits right in with the Dow way of keeping a worker safe," Wolf said. "It takes the bull-work out of handling. Cuts out the heavy lifting, pushing, hauling—any work that tires a man too much."

Safe Receiving Made Easy

Efficiency of operations was improved and potentially unsafe conditions were eliminated at the central receiving building in another example of the Dow technique. About 55 tons of freight come in and are unloaded every day at Central Receiving for distribution to 320 places in the Division. Stacking incoming goods on the dock for later handling by hand trucks was inefficient and posed many hazards to safety. So, an in-floor dragline system was installed.

Now over-the-road trucks pull into the dock and are unloaded onto the robot floor trucks. They circulate through the building. Their loads are taken off, counted and inspected. They are put back on the trucks which return to the dock. That's where the final unloading is done. Material on the floor trucks is

(Continued on page 111)



AFTER: In-floor conveyor system makes the difference between danger and safety. Mer-

chandise is received, quickly put on the carts, routed through inspection. Handling is safe.



An improvised clamp, designed by a foreman, makes this forty-pound lifting job easier on the operator.



Conveyor-to-truck handling of drums puts the bull-work on the machine, not the man. Note roller gap.



Handling cylinders upright from ground to truck and in truck racks makes safe moving and easier lifting.



Safety—11,000,000 Man-

TEAMWORK has won six straight safety awards for the Allentown Works of Western Electric Co. This 3300-man plant has compiled an almost unbelievable record of over 11,000,000 man-hours on the job without a disabling accident.

True, the plant is not inherently dangerous. Yet, it does have some handling conditions which could cause trouble if there were no safeguards. Most of these conditions result from the products which are handled. Let's take a look at those products:

1. RAW MATERIALS: Many—glass tubes, for example—are fragile. If broken, they could lead to cuts, glass embedded in hands, or infections. Others are poisonous. (The Allentown Works stocks a complete range of acids for processing, plating and simi-

lar jobs.) Gases in pressure tanks and flammable materials also require detailed regulation for safe handling.

Potentially less dangerous, but still in need of careful handling are coating materials like English clay, or silicon carbide. Also in this class are: a variety of non-ferrous metals and sheets, bars and coils of copper.

2. FINISHED PRODUCTS: Primary products include fragile electronic tubes. These present contamination problems during manufacture. After they are finished they require the special considerations that go with handling of a fragile glass product.

Other products of the plant are: thermistors, diodes, switchboard lamps, mercury switches (mercury is under pressure, adding to normal mercury handling



UNSAFE EQUIPMENT REPORTS can pull a piece of equipment out of service. Plant policeman makes out



report on broken skid (left) and factory inspector red-tags worn cable. (right) It can't be used until repaired.

Hours Worth

problems) dry switches and non-tube varieties of electronic products.

3. MAINTENANCE: The maintenance department has its share of handling safety problems. Employees must handle and replace lamps of many sizes, shapes and types. They have to transport and use all sorts of cleaning compounds (oils, paints, acids). And, in maintaining equipment, it is often necessary that they move heavy machines.

How Awards were won

Add all of the above together and you have a situation which does not promise too much in the way of safety awards. But the plant has been a constant winner. How?

Ask Safety Supervisor, W. A. Coleman, how he has kept accidents down and he quickly assures you that his role has been a minor one. "We treat safety as a group effort. The Safety and Suggestion organization only fits into the group picture and its vital department function to act as a "lubricant" to the entire effort. It tries to make the job easier for every member of the team.

"Of course," he points out, "our company has the right environment for a successful safety program. The executive staff (including an assistant superintendent's safety committee) encourages safety and supports our program fully.

The real key to our success, though, is people. We have the right ones on our safety team."

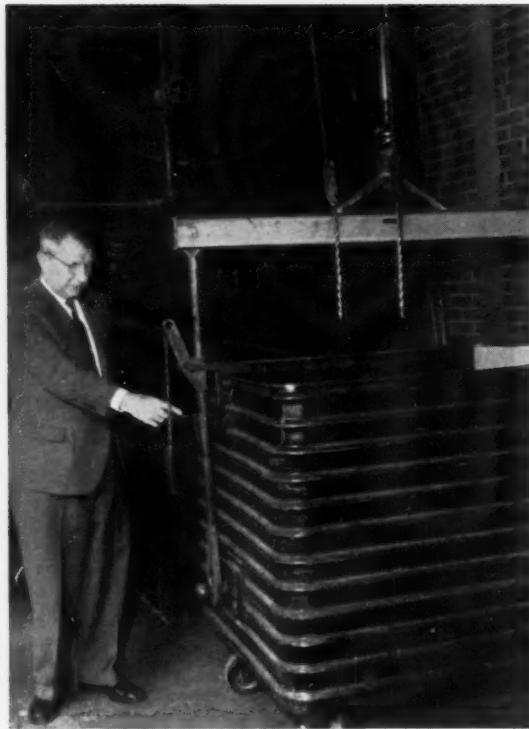
Supervisors Key to Success

The entire safety program at the Allentown Works revolves around the supervisors. Each department head is required to fill out a monthly check list (Supervisors' Safety Activity Report—see illustration). It shows how he helps to improve conditions and educate workers in his department. He may work with his people through monthly meetings. If he wishes, he can use a personal approach and have

(Continued on next page)

Western Electric's Safety Team . . .

Member	What he contributes
Product Engineer	Gives product information to those who will make it. Develops production and handling methods and makes sure they will be safe.
Plant Material Handling Engineer	Responsible for inter and intra-departmental transportation of materials. Consulted by plant design and plant layout engineers. Sees that equipment and plant meet handling safety requirements.
Industrial Hygiene Engineer	Consultant for first two. Is an expert in knowing and recognizing hazardous conditions inherent in use of various compounds, liquids, gases, etc. Also watches for potential dangers in shape, or nature (sharp edges, etc.) of materials.
Shop Supervisor	Interprets manufacturing information provided by product engineer for non-supervisory personnel.
Non-Supervisory Shop Employee	Follows safe practice instructions as outlined by supervisor. Keeps conscious of need for safety and develops "safe habits." Makes suggestions to better unsafe conditions.
Office Supervisor	Interprets information provided by the Business Methods Organization (a group which is equivalent to Product Engineer in the plant) . . . it tells how to do clerical routines.
Non-Supervisory Office Employee	Follows safe handling practices in relation to office machinery, etc.
Works Service Supervisor	Interprets safe practice information provided by plant engineer for works service personnel.
Non-Supervisory Works Service Employee	Maintains plant and manufacturing machinery according to safe practices information furnished him by his supervisor.
Plant Inspector	Makes prescribed inspections to locate questionable mechanical, fire and chemical conditions. He can red-tag unsafe equipment.
Medical Organization	Doctors and nurses, when treating injuries, watch for indications that an unsafe condition exists. They notify Safety Supervisor.
Assistant Superintendent Safety Committee	Group which reviews hazardous conditions which have, or could cause, injuries.
New Process Safety Committee	Reviews new installations and processes. Establishes safety practices.
Management	Provides right atmosphere for safety program. Backs safety efforts and provides needed tools.
Safety and Suggestion Organization	Follows up all suggestions for improving safety. Helps supervisors investigate accidents. Investigates and analyzes hazards. Encourages, through supervisors, safety suggestions. Publishes comparative reports on safety records and activities.



LOCKING DEVICE and one-way dump control on janitor tubs have eliminated unsafe condition at incinerator (above). Department supervisor who suggested this refinement demonstrates what could have happened without it (below). Contents could bury worker.



Safety— 11,000,000 Hours Worth

individual safety talks with each employee. Either way, he must report his activities on the monthly check list.

When an accident does occur, the supervisor must prepare a report, no matter how minor the inquiry. In addition to describing the accident and results, he must tell how it might have been prevented. Of greater importance, however, he must explain what he has done to prevent a recurrence.

Where Equipment Safety Starts

Control of material handling safety starts with engineering . . . engineering safety into a new building and then into its equipment and operations. These are the responsibilities of Western Electric's Product, Industrial Hygiene and Material Handling Engineers.

To keep equipment already in use from becoming unsafe The Allentown Works has set up a program which leaves little to chance. All equipment is inspected for safety during routine and preventive maintenance checks. Factory inspectors keep equipment under almost constant scrutiny. Plant guards are on the watch for equipment in need of repair. And, of course, supervisors are always alert.

The source of most unsafe-equipment reports, however, is the non-supervisory employee, the man on the job. He, or any of the people mentioned above, can prepare a written report for the safety engineer. Or they can phone him when prompt action is required. Where conditions are serious enough, such a call or report can lead to the closing down of an entire operation until corrective action has been made.

But the Record Is Not Good Enough

The Allentown Works does not intend accepting its near-perfect record as proof that material handling is as safe as it should be. They plan for the future as if their accident record was poor.

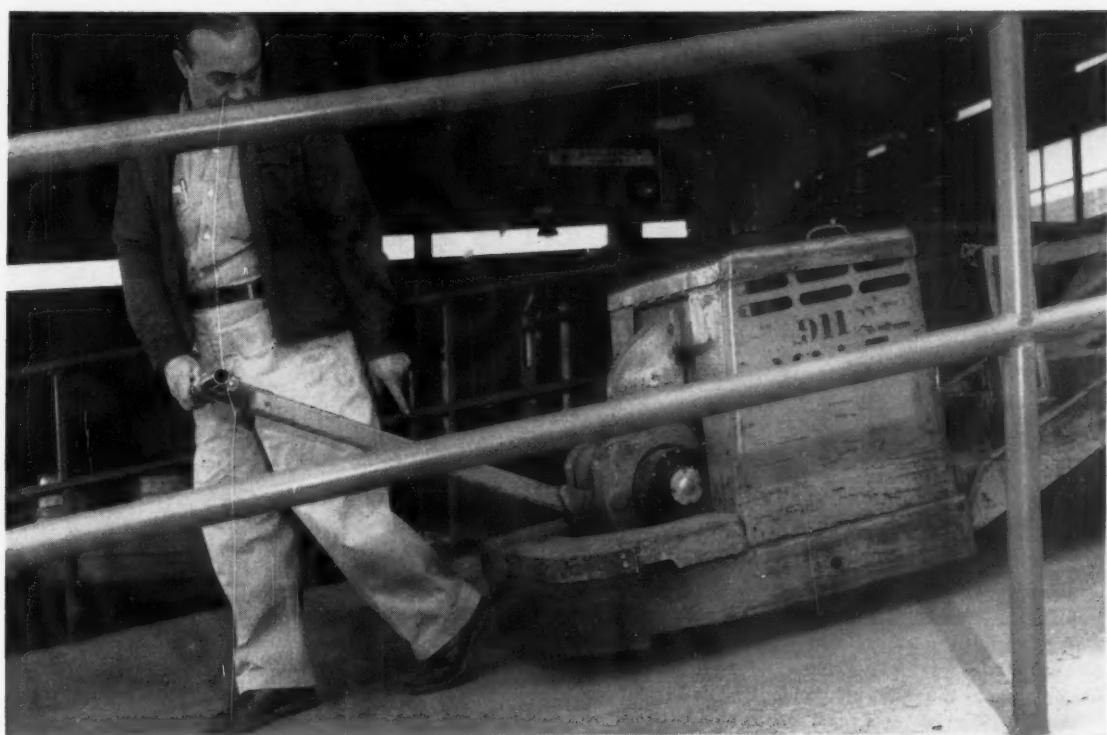
Why?

Allentown's material handling engineer, N. G. Schaffer, one of the men behind this never-be-satisfied attitude, puts it this way.

"Today, throughout industry, material handling still contributes 22 to 40% of all industrial accidents. It is the largest single contributor. As a phase of industrial activity, handling has grown fantastically in a few short years. It has been industry's "hot rodder". Its share of responsibility in Industry's safety program has not been proportional to its newly acquired size.

"Our goal is to transform material handling from an industrial delinquent, a brash newcomer, into a mature member of the industrial safety team".

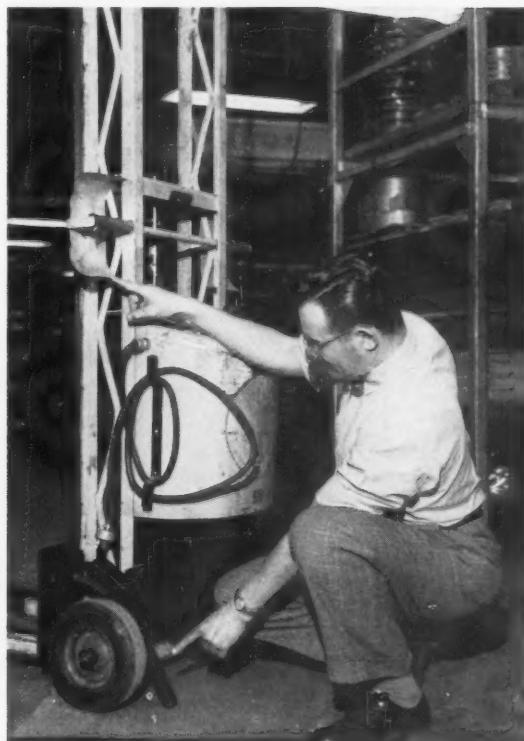
How W. E.'s Safety Team Helps Prevent Accidents . . .



LEATHER GUARD on walkie counterweight protects operator's heel especially when on downgrade. This suggestion was made by a non-supervisory employee.



BAR GUARD added to mast of fork truck eliminates guillotine hazard. Idea by material handling engineer.



HAND GUARD and no-tilt device were put on portable elevator after suggestion by factory inspectors.



Oscar Mayer Won't

This meat-packing company wants people who will work at safety full-time. Employees' committees cooperate to prevent accidents.

AT OSCAR MAYER & Co. in Chicago they believe that safety is bought by vigilance. This vigilance is channeled through three committees that stay on top of safety problems—big, or little, not one escapes notice. Two "watchdog" committees try to anticipate and thus prevent accidents. The other committee investigates accidents, recommends ways to keep them from happening again.

In the past six years many of these accidents have involved material handling. Their relation to total accidents was:

1952	35%
1953	41%
1954	20%
1955	31%
1956	27%
1957	29%

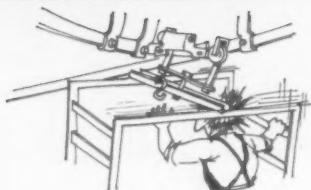
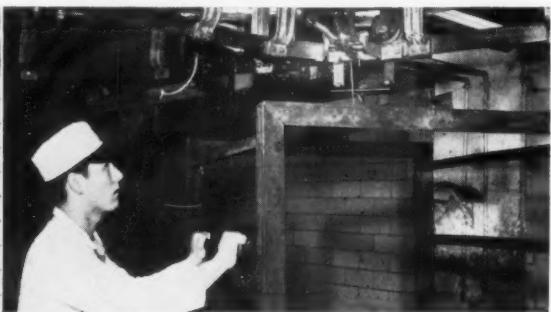
Here's how group action pays off in cutting down the number of these accidents.

The Day Committee

This committee is both stable and flexible, with four permanent members and eight rotating. The chief of plant protection, a company nurse, a veteran safety trouble-shooter and the union business agent are the regulars. Rotating in the committee are eight foremen. The idea is that each man gets experience in working on safety problems, but doesn't stay at it long enough to get stale.

The committee is an advisory group, keeping a day-by-day lookout for unsafe conditions, reporting them at weekly meetings. Members discuss, recommend—and put their recommendations in minutes. The minutes go to managers, superintendents, plant engineers, other committee members.

This distribution to management is important to the



ACCIDENT: Worker was pulling weiner cage along a trolley. He pulled the switch to open a spur track, continued to pull the cage along while leaning into it. But he had not closed the switch completely; cage dropped through, injured his head. Obviously new safety emphasis was needed.

SOLUTION: Workers must push cages along track instead of pulling them. They stand back from cage to pull switches, keeping clear of cage.

Hire Accidents



Employees learn about the Oscar Mayer Co.'s safety policy before they're hired. Both management and workers preserve this attitude.

committee's functioning. Since they have no power to enforce safety, the members must rely on their printed suggestions—repeated as often as needed—to bring pressure on people to correct unsafe conditions.

The Night Committee

This group functions the same as the day committee but has different membership. Two foremen, five hourly employees and the night superintendent are the safety-watchers on that shift.

The Supervisors' Committee

The production superintendent heads this group, with the personnel manager, the head nurse and production supervisors as members. They are an after-the-fact committee who work like this:

Nurses write an accident report on every worker

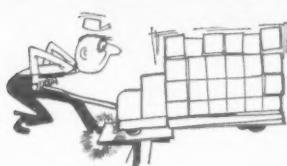
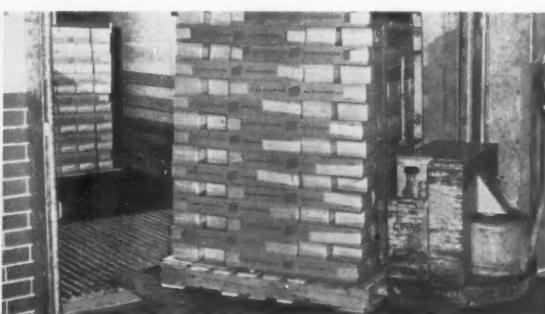
who is treated in First Aid. The report describes the injury, how it happened, how much it cost.

First Aid sends a report form to the injured worker's foreman. He fills in accident details, tells about unsafe work conditions involved, what should be done to correct them. Thus the foreman is spurred to action; his production supervisor carries on the work at the monthly committee meeting.

"Safety is mainly a matter of attitude," says personnel manager Ralph Johnson. "It's one of those things you have to remind people of—constantly."

Making Machinery Safe

Quality control inspectors and safety committeemen work together to keep machinery in safe working condition. They put a "Danger—Don't Use It—Unsafe" tag on defective machinery. The committeeman tears off a section of the tag, writes in the location of the machine, and describes the defect. He then sends the



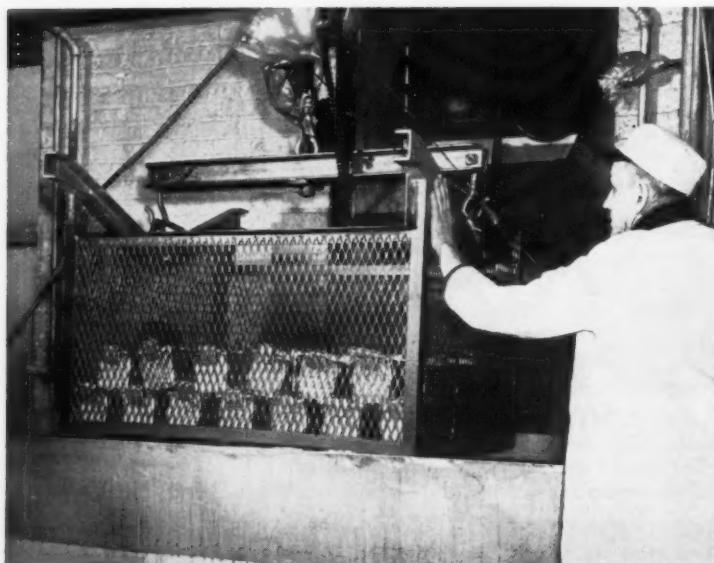
ACCIDENT: Worker was pulling a walkie over a metal plate used between truck and dock. Weight of truck's front wheels on top edge of the plate caused the bottom edge to lift. When the rear wheels came over, the weight balance of the plate was reversed, crushing the worker's foot.

SOLUTION: Dock leveler was installed to raise and lower the trucks. A support was welded to the underside of the plate, making it stable.

**Oscar Mayer investigates
every accident, makes sure
it doesn't happen again.**

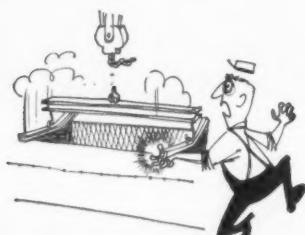


Personnel Manager Ralph Johnson carries out one of his duties as a safety committee member—tagging an unsafe piece of equipment. Broken skid gets tagged.



ACCIDENT: Worker was guiding a cook basket onto a rail after hoisting it from the cook tank. The hoist chain broke, causing the basket to pin his hand against tank, injuring the worker's left thumb.

SOLUTION: Workers guide baskets from the end instead of under lip on the side. Chains are now inspected regularly for wear.



tag-end to the superintendent involved. Thus unsafe machinery is repaired in a hurry—or stays shut down.

Employees' Safety Competition

"Little Oscar" is a cartoon character that personifies the safety competition between employees. Pictured as a boy in a chef's hat, he appears on all safety award notices. Here's how the "Little Oscar" awards are earned:

Departments compete on the basis of accident frequency rates per 1,000 man-hours. They're separated into five divisions according to similarity of operating conditions. Every month in each division there's a "Little Oscar" award for the best safety record, free coffee for the department and recognition on all plant bulletin boards.

Employees also have a chance to win the "Little Oscar" safety slogan contest once a month. Here the prize is \$10.00 and a safety certificate. The winner is photographed getting the award and the photo posted throughout the plant.

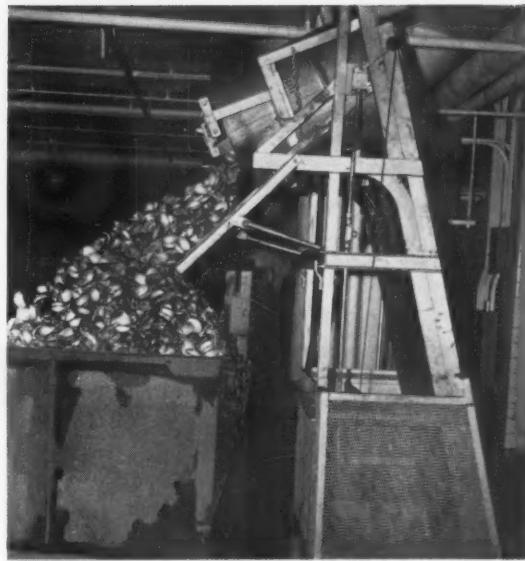
How has this safety vigilance paid off for Oscar Mayer & Co.? Lost-time accidents have been reduced from 77 in 1952 to 5 in 1957. This has meant a 65% cost reduction from 1952 through 1956.

The budget for the entire safety program comes to only \$500 a year. But this program saves many times this figure in accident costs—not to mention the intangible savings it makes in human suffering.

The people at Oscar Mayer are determined to keep safety on the upswing. As it says in a company bulletin: "We are helping to make 1958 our safest year . . . When we follow each safety rule as though it had been written just for us, and as though our own safety depended on it . . . When we make up our minds never to take a chance that an accident won't happen this time . . . When we use without fail our safety equipment . . . When we do every part of every job the safe way *until the safe way becomes a habit!*"



EVERYONE KNOWS the safety engineer at Campbell Soup Co. He talks safety to workers on-the-job.



SKIP HOIST dumper loads waste into disposal truck. Old hand-shovel method resulted in many aching backs.

Campbell's Recipe for Safety

A UNIQUE ingredient has made a great difference in the safety program at Campbell Soup Co. No. 1 Plant in Camden.

On the surface, the program is not too different from any other good ones. It provides for spot-checking and reporting of unsafe conditions and equipment. It trains employees. It looks into future operations, anticipating trouble spots. It does all the things you would want a good safety program to do.

But, there is one big difference . . . an extremely close personal relationship between the safety engineers and every worker. That has turned out to be a prize-winning combination. Lost-time accidents have dropped from 169 in 1944 to only 33 in 1957. And the trend is still downward.

Senior Safety Engineer Elmer Hutzley has found his job a lot easier since he started the personal approach.

"I try to know and be known by every employee in our plant," he points out. "That way, safety is not a cold "management problem", represented by a lot of figures on safety reports which only a few people ever see. Here, safety is, as nearly as possible, a personal affair to every employee."

Hutzley makes several tours of the entire plant

every day. He seldom completes a round without being stopped at least once by someone with a safety idea. When a FLOW editor toured the plant with Hutzley there were at least three interruptions. The Safety Engineer was never too busy to listen.

He's A Handling Man Too

Hutzley has found that he devotes as much attention to material handling safety as to almost all other operations combined. This is not surprising—handling is involved in nearly every activity of the plant.

In Camden, a complete line of Campbell's famous soups (heat-process and frozen) and juices are made and canned. Cans are made on the top floor of the building and moved through an intricate can conveyor system to processing-filling lines on the floors below.

Here, material handling engineers have battled one of the most complex flow problems to be found anywhere. They have coordinated the flow of four sizes of cans with an almost never-ending output from dozens of processing lines.

For every production run, each of the four sizes of cans needs the right quantity of the right can covers.

(Continued on page 112)

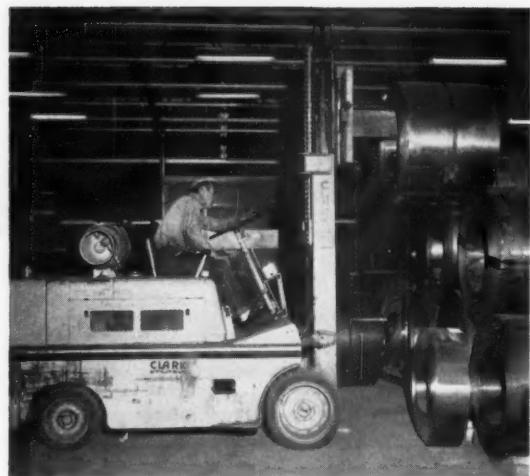


PLANT SAFETY AWARDS are received by five Bostwick employees who represent over 100 years of service. Awards are from Metal Lath Mfrs. Assoc.



METAL LATH is strapped to pallets and stored in warehouse. Injuries from sharp ends are eliminated.

COMPETITION BETWEEN PLANTS



HEAVY DUTY FORK TRUCK stores steel coils away from production areas to eliminate possible injuries.

3 Steps to Handling Safety

Good, clean, friendly competition between employees at Bostwick Steel Lath Company, Niles, Ohio and employees at other plants in the area has made Bostwick one of the safest plants in the country. In eleven of the last fourteen years there have been no lost-time accidents.

The competition results from the fact that companies in this area are members of the Trumbull County Manufacturers Association. This association was the first in the nation to start a safety campaign between member companies. Competing in the county campaign means that a fellow at one plant might be competing against his next door neighbor. Who's going to have an accident and take a ribbing from the guy next door? No one; and that's why every employee is safety conscious.

The Trumbull County Mfg. Association, now celebrating its 25th Anniversary, says that the accident frequency rate of the entire county is a low 4.0 a month.

A. J. Bold, vice president of Bostwick, says that the county contest and company's 3-point safety program

centering on the elimination of hazards have made this record possible. Bostwick's three-point program includes: (1) best possible working conditions, (2) definite safety rules, (3) employee responsibility.

1. Working Conditions

Every plant operation is engineered for the safest possible results. Plant layout sets definite places for each machine and each aisle. Blind corners, doorways, and congested areas are clearly marked so that workers are not endangered by moving materials. Fire fighting equipment is available in each production area.

Because industrial trucks must travel in and around work stations every precaution is taken to protect the workers. Exhaust pipes are turned up to keep the fumes above the workers' heads. Trucks must stop at intersections; and each truck has a horn or other device to warn of its approach. All handling equipment is checked, adjusted, and repaired once a month to in-

(Continued on page 86)

PAYS OFF IN SAFETY



SAFETY SIGN reminds all employees that another world record is possible if everyone is safety minded.

How to Set A World Safety Record

SAFETY is no accident at American Welding & Mfg. Co., Warren, Ohio. They plan for it. And planning for safety has paid off. The company holds a world record for medium size hot and cold metal fabricating plants by working 3,400,000 man-hours without a disabling accident.

The string of safe hours started August 31, 1955 and ended March 11, 1957. The man whose accident brought the halt to the safety record apologized to his fellow workers while still in pain.

It's hard to believe that any employee could be so safety conscious and so interested in his plant's safety record. But, it's true of all the employees at this plant.

Safety director for the company points out that the company wants employees to be safe at all times, therefore many of the company's safety campaigns are now aimed at home and highway safety.

How did American Welding establish such a safety record, and get all employees to be safety conscious?

First, the company is a member of the Trumbull

County Manufacturer's Association. It competes against every other plant in the county for annual safety awards.

Second, the company's management feels that any safety program starts at the top (management) and ends with the man on the machine or desk. So, they see that every employee works under the best possible conditions. Also that he knows his job, and has a thorough understanding of safety rules and regulations.

Company engineers plan safety into every operation. They know what to look for and what to avoid. Every operation and every piece of equipment is designed and developed for a specific job. For example, each handling operation is evaluated. The right type of

(Continued on page 88)



FORK TRUCKS are used to handle heat treated parts. This stops another manual handling hazard.

PORTABLE HYDRAULIC LIFTS are used to eliminate serious injuries that might result from manual lifting.



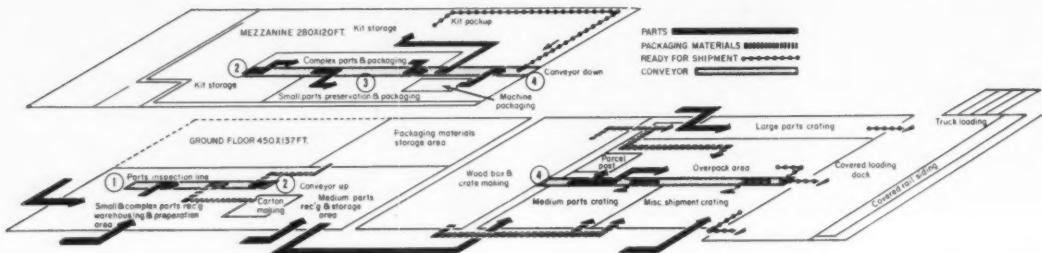
1. SMALL parts and the materials to package them are put on at the beginning of the line.



2. MOTORIZED conveyor section moves parts and packaging materials to a mezzanine.



3. LINES near the central conveyor lines are used in packaging. Flow never doubles back.



"The principles of effective parts packaging and shipment also contribute to the safety of personnel," says North American Aviation, Inc. The company has found that you can have . . .

High Speed and Safety Too

FAST MOVEMENT, strict control, flexibility for absorbing increased loads, and safety. These are all built into the new \$750,000 packaging and shipping line at North American Aviation Inc.'s Columbus (Ohio) Division.

In the first months of its operation, the shipping department increased its effectiveness more than 16 per cent with no increase in accident rates. And it held its error rate down to 1.29 per 1000 shipments.

The Challenge

About 15 million pounds of aircraft parts in 100,000 separate shipments are sent from the plant every year. They go to more than 50 Naval and Air Force facilities throughout the United States and the world.

Parts range from complete aircraft wings to bearings

and washers so small that it takes several hundred of them to fill a teaspoon.

Packaging and handling equipment have been combined into a system designed to minimize fatigue, strain, and excessive handling.

The Plan

The system is laid out so that the flow line moves without interruption from parts receiving to the shipping dock. The main artery is a central conveyor line 400 feet long. Once on the line, parts do not deviate from it except for some brief packaging operations. Even then, they do not move more than a few feet from the line.

There is no doubling back; the line saves space by moving to a second level and then returning to the



4. PACKAGES flow down a conveyor belt to an overpack area where they are boxed. Large and miscellaneous shipments are crated on either side of

the main line. Dock areas are set aside for the various destinations of shipments. Packages are sent by truck or rail—shipments which must be expedited go by air.

main floor. Motorized endless belts (controlled from either end) are used to raise and lower parts.

A common receiving point for all shipments at the start of the line assures that paper work is properly processed on all parts before they are placed on the conveyor line. Each shipment requires the preparation of 20 forms and a total of 68 postings.

Parts are coded by shipment date, and a single record-file controls the movement of everything on the line.

A Method for Every Part

Parts are divided into five packaging classifications. Complex parts are packed directly into corrugated cartons. Small parts are packed in paper, bags, tubes, or chipboard boxes. Medium parts are packed directly into cleated plywood boxes. Bulky items which must be moved on dollies are processed and crated (on the ground floor) parallel to the conveyor line. Miscellaneous parts (those not covered on direct contract) are put in appropriate commercial packaging.

After incoming inspection, complex parts and small parts are placed on the conveyor with the necessary packaging materials and paper work. They are moved forward to the appropriate packaging area.

Large quantities which do not lend themselves to machine packaging are moved onto subpackaging lines which run parallel to (but never double back on) the main assembly line. A big increase in hand packaged items can be handled easily by extending the subassembly lines.

Packaging materials are placed closely parallel to the stations and the line where they are needed. For example, paper, foils, cushioning materials, chipboard boxes, tubes, and envelopes used in the shipment of small and complex parts are placed near the beginning of the line. Wood box and crate making materials are stationed adjacent to the area where large parts are skidded in.

Most of the mechanized packaging operations are done with wood saws, automatic nailers, packaging machines, and corrugated box making machines.

Many of the small and complex parts processed on the lines are consolidated into kits used to make changes in aircraft already in operation. These parts are stored temporarily in bins until all the items have been assembled and are then packed in wooden boxes and shipped out.

At the end of the line, packages are moved into docks marked for the various destinations.

Loading Up

Three railroad cars and five trailer trucks can be loaded at the same time at the outgoing dock. Powered truck levelers at the loading dock can raise or lower truck beds 1 foot so that crates can be skidded or moved by fork lift into the truck without the use of ramps.

North American's processing installation encompasses an area of about 100,000 square feet. Because of the line's flexibility it can increase its production 50 to 75 per cent above what it now handles.



Safety Award Handling of

PRODUCING URANIUM FOR ATOMIC REACTORS is safer than making everyday items like plastic toys, or copper wire. That's the experience of National Lead Company of Ohio, producers of pure uranium for the Atomic Energy Commission. This company does an essential job so safely that its accident record is far better than the National Safety Council's average for the non-ferrous metals field.*

The commission's plant operated by National Lead is spread out on an 1100 acre site at Fernald, Ohio, on the outskirts of Cincinnati. It has over 50 buildings; 4.3 miles of railroads; 8.6 miles of paved streets. Its 2600 employees are guarded by a safety program that makes even safety-conscious AEC officials glow with pride.

Technically, the operation that goes on there is called Feed Materials Production. To the layman, it means processing high-grade uranium ore into pure uranium, to be used in both National Defense and peaceful programs.

The big problem in this operation is not radioactivity, but toxicity. The uranium in its various stages at this plant is only slightly radioactive. But some of the chemicals used in vast quantities could cause serious burns in event of an accident in handling them.

*J. Arlen Marsh, editor of *OCCUPATIONAL HAZARDS*, the country's leading safety magazine points out that this is often true. "It's common in industry" says Marsh, "that unusual operations often have outstanding safety records, while a relatively safe operation may have a poor record because employees tend to relax too much."



SAFETY PLAQUES attest to the firm's outstanding record, far better than National Safety Council average.



FORK TRUCKS unload incoming drums of ore four or eight at a time. Drums weigh about one half ton each.

PLASTIC SHIELD fits any of the area's fork trucks, protects driver removing loads in the event of fire.

PROTECTIVE CLOTHING is a must. National Lead's Procurement Director W. A. Smith, Jr. (left) and FLOW Associate Editor Al Joseph wear company-furnished jacket, hat, shoes. Longer stays require head-to-toe clothing change. Tractor trains are seen throughout the 1100-acre site, pulling loads of ore, chemicals.



Atomic Materials

Hydrofluoric acid, for example, reacts violently with almost everything. It is so corrosive that very few materials can be used as containers for it. It even eats through glass. Yet the company has never had an accident in handling it.

Refining the uranium:

Here's how the uranium is produced. Ore, about 65 percent pure, arrives by rail car in 55-gallon drums. Loaded drums weigh about $\frac{1}{2}$ -ton each. Fork trucks with clamp attachments handle them quite readily. Nitric acid, the other basic raw material, also comes in by rail—in tank cars.

After sampling, the ore is taken by skip hoist to an overhead area and dumped into hoppers. From

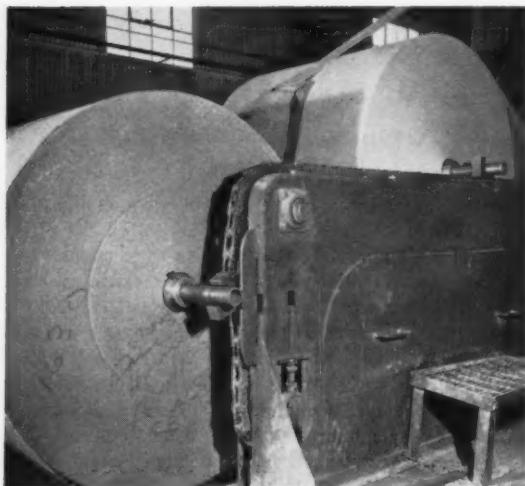
here it goes by screw conveyor to a bank of digesting tanks, where it is mixed into a slurry with the nitric acid. Then it goes through a series of chemical and metallurgical reactions and finally emerges as high purity uranium metal.

Vacuum induction melting furnaces cast the metal into ingots. The ingots in turn are fabricated into billets, the billets into rods, and the rods into finished shapes. The shapes are loaded into wire mesh baskets, then taken by monorail to an inspection area. After inspection they are packed into wooden boxes for rail shipment, and sent on to the other AEC installations. It is these finished shapes that are eventually used as fuel elements in atomic reactors.

(Continued on page 106)



DRIVERS are protected by overhead guards on all the lift trucks used at Celotex's roofing plant. Rolls can be stacked four high, saving warehouse space.



ROLLS weighing up to 2000 pounds are lifted from the floor and moved into feeding position by these chain mounted hooks. No strain, no danger to workers.

Safety in a Small Plant

YOUR COMPANY doesn't have to be a giant to get good value out of a safety program. For proof look at Celotex Corp's Cleveland plant. It makes roofing; employs an average of 100 workers. No longer does it have the five or six lost-time accidents that used to "happen" every year.

An Achievement

The plant had one lost time accident in the last 2 years. It has received safety awards from the Asphalt Roofing Industry Bureau as well as the National Safety Council.

Now, the plant has no lost-time accidents in good years; considers a year with one lost-time accident a bad one.

Much of the credit for the plant's improved record belongs to its safety committee. Seven to ten people attend its monthly meetings. One or two workers from each department (mill, maintenance, and shipping) are present. Assignments are rotated so that different workers attend each month. Almost every worker gets a chance to be on the safety committee during the year.

The safety director and the master mechanic (who is in charge of maintenance) attend all meetings. Other supervisors sit in on many of them.

About six or seven safety suggestions are made at each session. To prevent ideas from being ignored, they are numbered and brought up at each meeting until action is taken.

In the effort to prevent lost-time accidents, minor accidents are also investigated. This question must be answered: "Could this accident have been avoided?"

(Continued on page 135)

You'll find many cost-reducing ideas in this new booklet



If you want materials-handling versatility plus high output in a single machine, it will pay you to find out how many of your handling jobs a single "PAYLOADER" tractor-shovel can do.

To help you visualize the great versatility of the "PAYLOADER", a special booklet has been prepared. It contains specifications and pictures of its many interchangeable attachments, and action views of the attachments at work. A copy is yours for the writing.



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3 STEPS TO HANDLING SAFETY . . .

(Continued from page 78)

sure working condition.

Tractors that pull trailer loads of material from one department to another cannot pull more than two at once. This eliminates possible turnovers when rounding sharp corners.

Because the metal lath, which the company makes, has sharp ends it is packaged in corrugated containers and bound with steel strapping right at the machine whenever possible. Otherwise it is immediately hauled away to the warehousing area. It isn't left standing around where workers can get hurt on it.

2. Safety Rules

The company has developed rules for each individual job based on past experience.

Hazardous areas (receiving, warehousing, and shipping) are off-limit to all unauthorized employees. Likewise the handling equipment may only be used by trained operators.

3. Employee Responsibility

Every employee is trained on the job so that he becomes familiar with conditions and possible job hazards. Once trained, he is responsible for his operation not only from a production standpoint but also the safety angle.

Every week the company holds safety meetings. Here each person may suggest changes in layout, operations, etc., to make the plant safer. These suggestions are studied and corrected. The company feels that the man on the job is in a much better position to see what's happening in his particular area. And he's in a much safer position if he reports danger spots at these meetings.

Safety posters and slogans are hung all over to remind employees that safety is first.

So, there's the answer . . . good, clean, friendly competition, plus the company's three point safety program . . . add up to one of the safest plants in the country.

THIS HUSKY PAYLOADER DEPENDS ON STURDY TIMKEN-DETROIT® PLANETARY-DRIVE AXLES!

CAPACITY
16 TONS!



The continuing trend toward bigger capacities in heavy-duty materials handling equipment calls for more and more *planetary-drive axles*. That's exactly why The Frank G. Hough Co., makers of the front-end loader pictured above, went directly to Timken-Detroit—world leader in this specialized field.

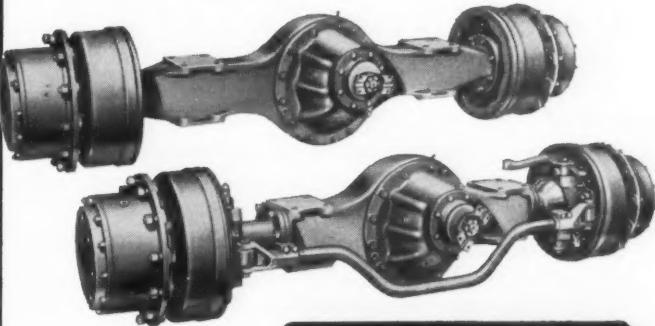
Because of their unique experience and background in planetary drives, Timken-Detroit engineers were able to build front and rear driving axles for this loader that met the manufacturer's specifications exactly—and at real savings in both development and manufacturing costs.

Timken-Detroit has been making planetary-drive axles longer than any other axle manufacturer. Our engineers know first-hand the problems of designing and building these sturdy and reliable drives for every type of heavy-duty, off-highway hauling and earth-moving equipment.

If you have a problem involving power transmission and propulsion, call in Timken-Detroit engineers. You'll save time and money.

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Timken-Detroit Rigid Planetary Axle



Timken-Detroit
Steering Planetary Axle

Plants at: Detroit, Michigan
Oshkosh, Wisconsin
Kenton and Newark, Ohio
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PRODUCTS OF ROCKWELL SPRING AND AXLE CO.

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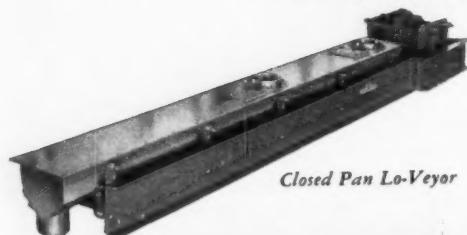
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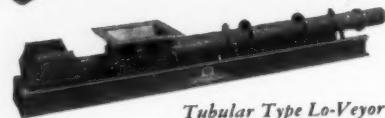
Ajax Lo-Veyor integrated into sand handling system of large automotive foundry.



LO-VEYORS convey bulk materials at low cost . . .



Closed Pan Lo-Veyor



Tubular Type Lo-Veyor



Ajax reciprocating drive, the heart of Ajax Vibrating Conveyors.

FAST: Ajax Lo-Veyors take the place of shovels, wheelbarrows and other slow-moving bulk materials handling methods. They handle large tonnage in sizes from 5 microns up to large lumps and materials of various moisture contents.

CAPACITIES: Made in lengths from 3 ft. up,—they are used as feeders and for long runs with units in series. They are often integrated and synchronized with production lines between departments and machines.

LOW HEAD ROOM: Space saving installations, under floors and overhead, are made easy by low height averaging less than 14" except at point where shaker is located.

CUT MAINTENANCE COST: All idler rollers, head and tail pulleys eliminated. No lubrication problem. Operates satisfactorily in severe conditions of dust and abrasive laden air.

ENGINEERING SERVICE: The broad experience of Ajax engineers is available to give you the latest thinking in handling bulk materials. An outline of your problem will bring you some worthwhile answers.

AJAX FLEXIBLE COUPLING CO. INC.
WESTFIELD, N. Y.

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HOW TO SET A WORLD SAFETY RECORD . . .

(Continued from page 79)

equipment is purchased or designed to fit the job, and that's where it's used.

A sixteen-page safety manual is given to every employee and he is required to know, understand, and follow the rules.

A continuous flow of information about safety from management to the plant and from the plant to management helps keep everyone well informed. Everyone is informed of new ideas, changes in layout and/or operation. Suggestions are always welcome from all employees.

First aid facilities and fire fighting equipment are available and kept in good condition. Employees are trained in the use of fire fighting equipment. A special nurse is on duty at all times, just in case.

The company relies primarily on line and staff supervision for safety. But, a six-man safety committee ties the whole safety program together. This committee is made up of three men from the management and three from the plant.

These are some of the reasons that American Welding holds a world safety record. And what's more they're working to better that record. At the present time there hasn't been a disabling accident for almost a year.

So if material handling accidents are hurting your plant's operation, take a tip from one of the safest plants in the country. Safety is no accident, it must be planned.



ELPAR

ELECTRIC TRUCKS...



New ELPAR R-10 series fork truck.

Twice the Life . . . $\frac{1}{3}$ rd the Operating Costs

In buying power industrial trucks, look beyond initial costs—and you'll discover these overwhelming advantages of ELPAR electric trucks:

- ELPAR electric trucks last at least twice as long as gas trucks operating under comparable conditions. Thus, when *all* initial and replacement costs are added up, ELPAR trucks actually *cost less to buy*.
- ELPAR truck operating and maintenance costs are only one-third those of comparable gas models. Based on 2,000 hours of operation, this means an average saving in direct operating costs of over \$1,200 *per truck per year*.

These facts are based upon actual case studies from a number of plants. They explain why 75 of the 100 largest U. S. corporations now are using ELPAR trucks . . . and why more and more companies are converting their fleets to ELPAR electrics.

Learn how ELPAR trucks can make short work of your toughest materials handling problems—with an almost unbelievably high bonus of savings . . .

SEND FOR YOUR COPY

of the ELPAR Lift, "Gas vs. Electric Trucks."

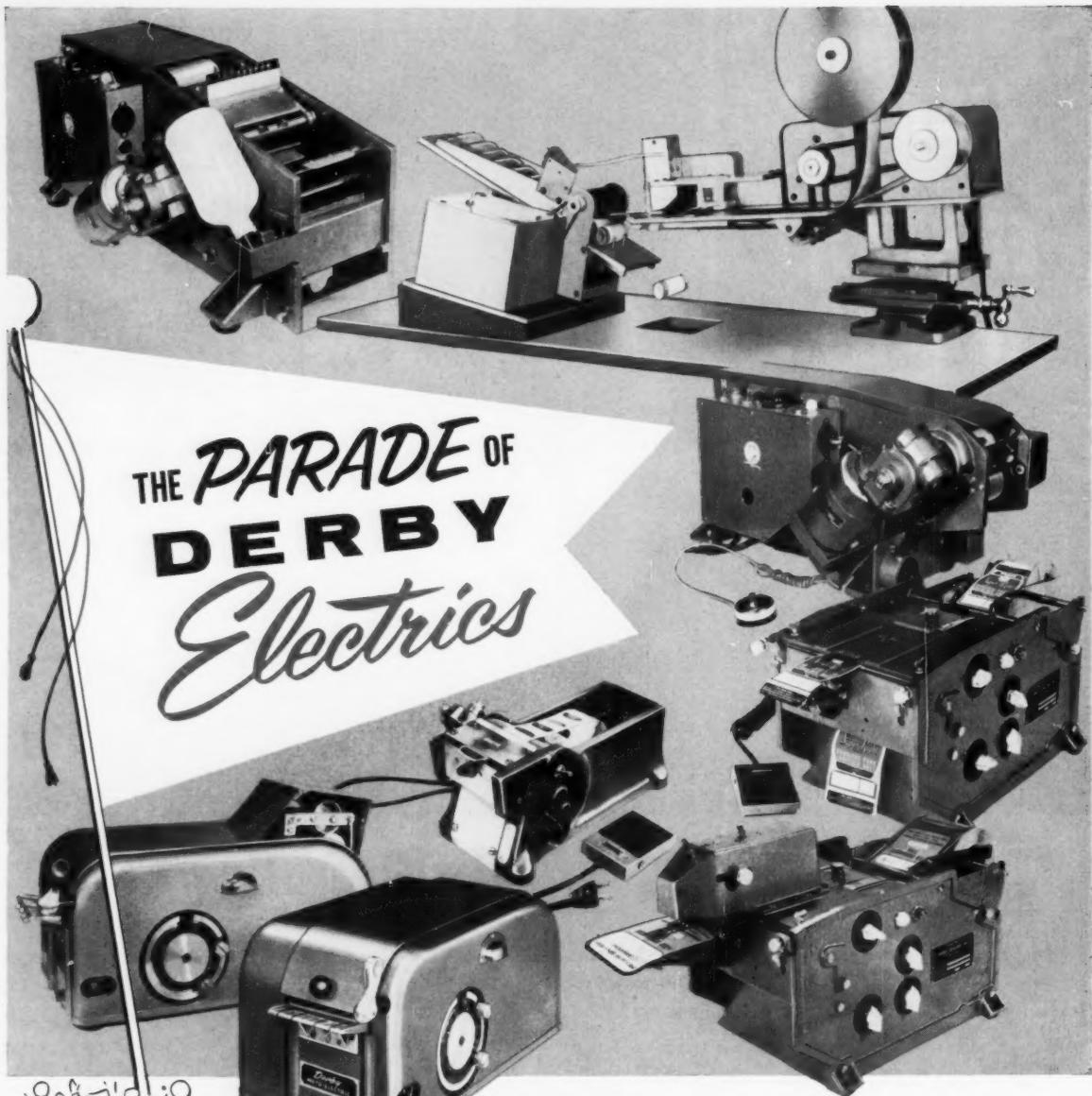


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4234 St. Clair Avenue • Cleveland 3, Ohio

Twice the Life . . . $\frac{1}{3}$ rd the Operating Costs

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THE PARADE OF
DERBY
Electrics



See the Derby Sealers Exhibit at:

The P.M.M.I. Show in Atlantic City; The National
Packaging Exposition at the Coliseum in New
York; Western Packaging Show in San Francisco

"TAPE AT A TOUCH"

Derby presents the first *applicator* for attaching pressure sensitive labels to products on a production line basis . . .

PLUS a complete line of Electric gummed tape and pressure sensitive tape and label dispensers for every packaging, sealing and labeling job. Fast, versatile, and accurate, they can be operated intermittently or continuously by foot pedal, hand switch, or photo-electric cell . . . dispense definite lengths, multiple definite lengths, or lengths visually measured.

There are models with 2-speed drive, rheostat speed controls, thermostatically controlled heat, coder, and tape straightener. Widths range from $1/2"$ to $8"$.

Ask your Derby Distributor for details, or write direct

DERBY SEALERS, INC.
Derby, Connecticut

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**PACKAGING
AND
SHIPPING
SECTION**

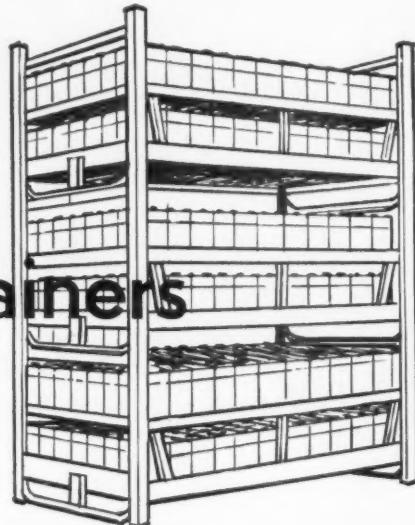
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Should you Use Returnable or Non-Returnable Containers

THE CASE FOR Returnable Containers

by C. L. Hanchett



WE CAN'T SAY that returnable shipping containers are always best. We can't say the reverse, either. It's not that simple. The choice depends on a number of things. In some cases returnable may be best; in others non-returnable may be the answer. But in the past two years, many companies have learned how to cut their shipping costs considerably by switching to returnable containers.

A returnable container may be a rack, crate, bin, tray, or in the broadest sense even a railroad car. It has means of mechanical handling for loading and unloading. It is often specifically designed for a particular product, however, it is best to have it designed for more than one use when possible. And by definition, it is non-expendable. It is to be used over and over again by the shipper.

At Ford Motor Company we ship a number of products in returnable containers. We use special rigid wire bins to ship steering gears in unitized loads. The gears are shipped in the same containers used for in-plant handling. There are savings in both shipping and handling. We use special racks to ship station wagon roofs, wrap-around windshields, and batteries. In each case, we have either cut our shipping costs, or speeded up shipping schedules, or both.

Tariff regulations often give returnable containers a free ride home. That's important. It's one of the big reasons for the boom in this type of shipping. Interstate Commerce Commission regulations permit railroads to return certain containers at no cost to the shipper. Depending on the product, and on the container itself, many shippers get free transportation of their container, both coming and going.

Before you can use returnable containers, there are a lot of arrangements to be made: with the freight line, with the receiving plant, with your own handling personnel. These arrangements have to work. If they don't, containers may come back too late, and leave the shipper without containers.

To decide whether you should use returnable containers, consider these things:

Volume. Is it high enough to warrant the cost of the containers? Low volume is only feasible when the non-returnable container for the product is prohibitively expensive.

Savings. What will you save in handling, packaging

(Continued on page 134)



ABOUT THE AUTHOR: Charles L. Hanchett is supervisor of Material Handling Engineering, Inventory Planning and Handling Department, for the Ford Division of Ford Motor Company, Dearborn, Michigan. He is also experienced as a development engineer in the field of production woodworking machinery, with application for radio frequency dielectric heating. He was a panel speaker at the 1957 SIPMHE Short Course held in conjunction with the National Packaging and Handling Exposition, in Atlantic City.

Brainard Strapping

... WITH EXTRA BACKING



Brainard Steel Strapping has something extra to offer. As a division of Sharon Steel, Brainard Strapping is fabricated from steel that is quality controlled from mine to market. Sharonsteel, a buy-word among steel buyers, is your assurance of the finest steel strapping available when you buy from Brainard.

Sharon quality in Brainard Strapping is available in all standard sizes and gauges of tensional and heavy duty strapping.

A large, stylized graphic of the word "SHARONSTEEL" in white, bold, sans-serif letters. The letters are set against a dark, textured, diamond-shaped background that tapers to a point. The graphic is oriented diagonally, sloping upwards from left to right.

SHARONSTEEL

Brainard Steel Strapping

Brainard Steel Division, Sharon Steel Corporation

Larchmont Avenue, Warren, Ohio

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A smaller version of the "SHARONSTEEL" logo, featuring the word "SHARONSTEEL" in white on a dark, diamond-shaped background.

SHARONSTEEL

Should you Use Returnable or Non-Returnable Containers

THE CASE FOR

Non-Returnable Containers

by T. F. Mangold



WHEN YOU SAY "non-returnable shipping container" you're covering a lot of territory. There are non-returnable containers* for all kinds of products, from chemicals to washing machines. Let's confine this discussion to those used for shipping bulk materials.

If you receive over 500,000 pounds of bulk material a year, you may have outgrown the unit load method and should start thinking about non-returnable containers.

The Product Distribution Committee of the Manufacturing Chemists' Association defines a non-returnable container as one designed to handle, for one movement only, dry particulate solids from point of origin to the customer's process. Top load limit, under this definition, is 2000 pounds.

From the supplier's viewpoint, it's hard to compete with the cost of 50-pound multiwall bags, filled on

high-speed lines and shipped loose. But new and better non-returnable containers are making bulk shipments more attractive to suppliers.

Changing containers means changing a lot of other things too. You have to consider how the new method will affect packaging, material handling, warehousing, transportation, working capital and sales.

At the supplier end, most bulk containers can be filled very quickly. And usually with less mechanized equipment than 50-pound bags. They can also be handled quickly and easily. Because of the different methods involved in bulk packaging, the change may require new investments on the supplier's part.

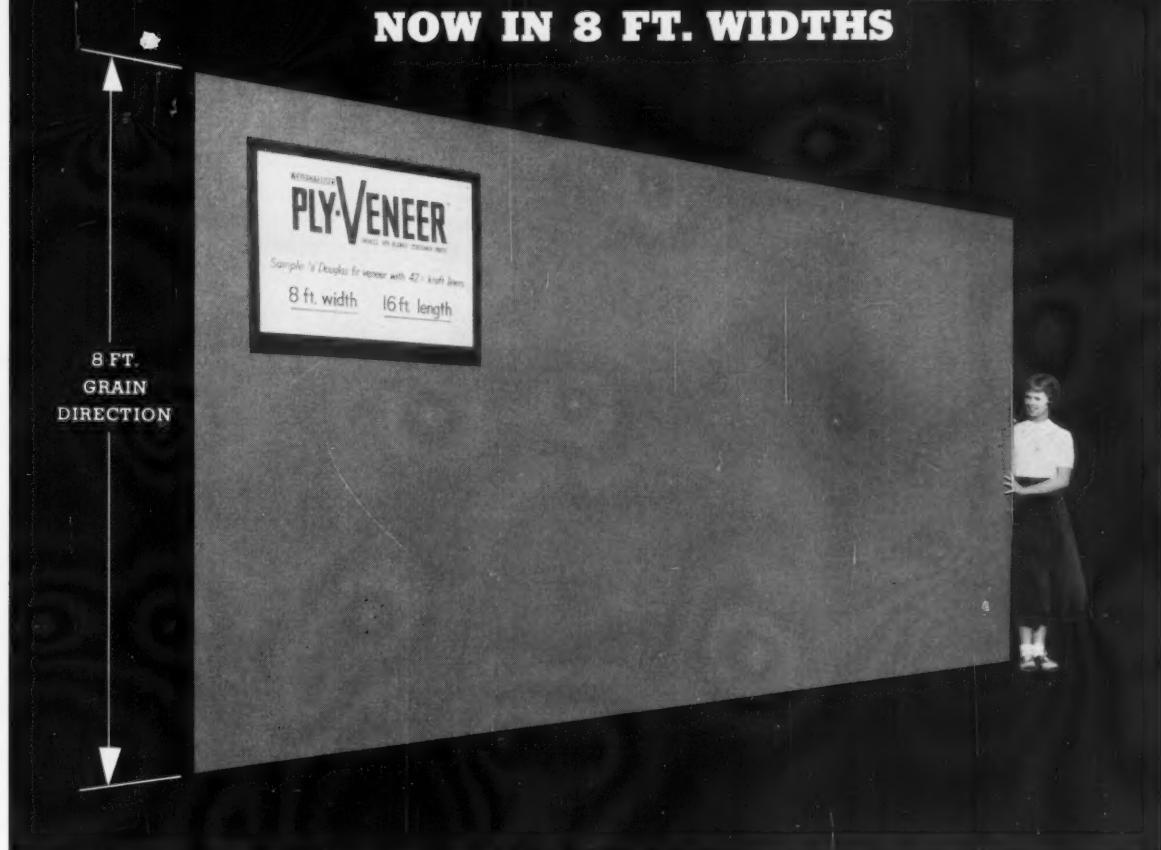
At the customer end, bulk containers may save about \$1.50 a ton in handling alone. There are other savings: in inventory control, damaged merchandise and pallet maintenance. On the other hand, the customer will probably have to find a new way to dump the material into his hoppers. Individual cases may vary. But generally, if you have a good fork truck, conversion to bulk containers need not be expensive.

(Continued on page 132)



ABOUT THE AUTHOR: For the past four years Thomas F. Mangold has been a material handling consultant with the Engineering Service Division, E. I. du Pont de Nemours & Company, Wilmington, Delaware. He has specialized in problems of product distribution with du Pont for 10 years. He was a panel speaker at the 1957 SIPMHE Short Course of the National Packaging and Handling Exposition in Atlantic City. He also spoke at the AMHS Conference in conjunction with the 1957 National Material Handling Exposition, Philadelphia, Pa. This article by permission of the author's company.

WEYERHAEUSER PLY-VENEER® NOW IN 8 FT. WIDTHS



Important development for packagers and manufacturers...



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You can now buy PLY-VENEER in regular 4 foot and 8 foot panel widths...or any special width. The panels are strong, light-weight, and remarkably puncture and impact resistant.

PLY-VENEER replaces heavier more costly materials in many packaging, luggage, display and furniture applications. Panels are available in nine basic constructions and veneer thicknesses of $1/10"$, $1/8"$ and $3/16"$. Specify Standard and cut-to-size lengths with optional grain direction up to 8 feet. Greatly expanded PLY-VENEER production facilities now offer you better service in a wide choice of sizes ranging from 3 inches to 16 feet. Panels shipped direct or from distributors.

*Write for literature to
Weyerhaeuser Sales Company,
Special Products Division,
Tacoma Bldg., Tacoma 1, Wash.*

PLY-VENEER®

A WEYERHAEUSER 4-SQUARE FOREST PRODUCT

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Should you Use Returnable or Non-Returnable Containers

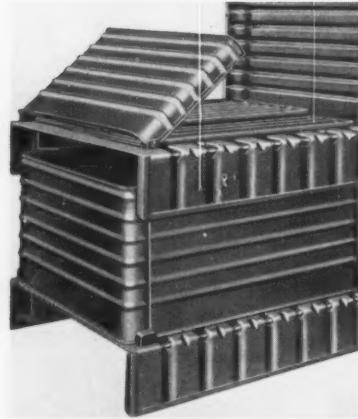
How Returnable Containers Cut Costs

- Examples of returnable containers in use.
- There are sizes and shapes for any product.
- They can give you cheaper, faster shipments.



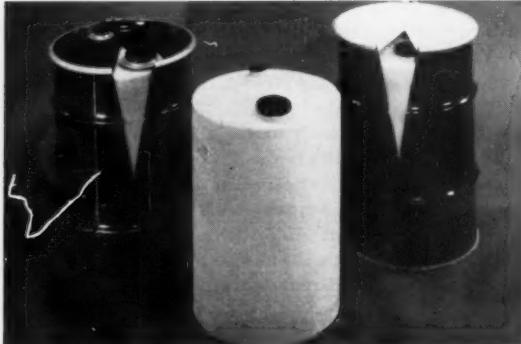
QUICKER HANDLING

Fiber glass reinforced plastic trays are light, durable, and low in maintenance cost. Here loaves of bread go all the way from oven to grocer's shelves on one special tray.



SAVE SPACE IN SHIPPING AND STORAGE

Heavy-duty collapsible steel pallet boxes are real money savers for one automotive parts manufacturer. They save seven to ten man-hours per truck load. They can be tiered whether loaded or empty—collapsed or set up. They collapse for return trip, saving 66 percent in space. Photo at left shows one set up, one partly collapsed. Full load collapsed is at right.



LIGHTWEIGHT ONE-PIECE CONSTRUCTION

Molded polyethylene drums have no joints, welds, seams. They come in 5, 15, 30 and 55 gallon sizes, with numerous closures. Approved by ICC, their freight rate is about 40 percent below carboys. In use they may be jacketed in steel or fibreboard drum overpacks.



CONTAINERS SAVE \$58,000 A YEAR

An electric equipment producer saves \$58,000 a year by using wire shipping containers. Parts go 40 miles by truck from one plant to another. The same containers are also used for in-plant handling of the parts, cutting out many handling operations and reducing breakage.

SIDE PANELS FOR EASY ACCESS

Wooden pallet boxes are available in many sizes, shapes, styles. They may be rigid or collapsible. They can be equipped with covers, side panels or drop-leaf panels for easy access to the load. Inset shows one of the boxes collapsed for storage or return shipment. Pallet boxes for in-plant handling aid housekeeping and inventory control. There is a lighter, expendable model.



PROTECTS' DELICATE PARTS

A major automobile manufacturer ships highly finished automatic transmissions and clutch housings in collapsible steel boxes. Life span of these boxes is about 10 years.



RETURNABLES MAKE BULK SHIPMENTS EASY

Hermetically sealed unit containers handle foods, cement, detergents, chemicals and most other bulk products. They can be tiered by fork trucks; are dumped mechanically. An eastern bakery saves \$60,000 to \$75,000 a year by using these containers to handle flour and sugar. The company uses 100,000 pounds of flour and 38,000 pounds of sugar a day. This method saves both in handling costs and bulk material costs.



OK FOR FOOD CONTACT

Plastic returnable trays saved a meat packer \$13,000 the first year; \$43,000 succeeding years. They can stack or nest; are government approved for food contact.



PRODUCTION LINE SHIPPING

A drug chain uses wood-and-wire covered boxes for shipments to its stores. Boxes are sealed for tamperproof shipping. They go from warehouse to truck on conveyors.



BUYER SUPPLIES CONTAINERS

A phonograph manufacturer ships knocked down wire pallet boxes to its suppliers. All supplies are received and handled in them. Damage is down; storage space up.

GAYLORD ACCEPTS YOUR TOUGHEST PACKAGING CHALLENGE

On guard against the profit squeeze? Too much product protection? Too little? Too many interruptions on automated packaging lines? Gaylord men can help you check these points — and more. They have developed a special skill in scoring packaging successes with corrugated . . . against the toughest challenges.

Whether you need regular cartons by the thousands or engineered packaging, call your nearby Gaylord man.



GAYLORD
CONTAINER CORPORATION



HEADQUARTERS, ST. LOUIS
PLANTS COAST TO COAST

DIVISION OF **Crown Zellerbach Corporation**

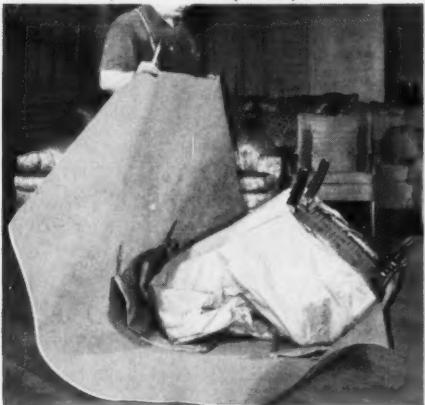




Protective covering textiles & roll goods.
(Photo courtesy of Industrial Rayon Corp.)



Protection for products requiring spiral wrap. (Photo courtesy The Goodyear Tire & Rubber Co.)



Flexible covering for furniture and other odd shaped products. (Photo courtesy of Furniture City Upholstery Co.)



Protecting open shipments in transit. (Courtesy Pine Mountain Lumber Co.)

Want a Product Wrap that's Low Cost... Waterproof... and Amazingly Rugged?

Indoors or outdoors, **FIBREEN INDUSTRIAL PACKAGING PAPERS** provide low-cost protection for large products and small, odd shaped and even shaped, crated or in boxes. Available in asphalt and non-asphalt laminates, flat and creped krafts, many strengths and widths.

Write our main office at Attleboro, Massachusetts for name of nearest **FIBREEN** jobber, sample and helpful packaging booklet.

AMERICAN SISALKRAFT CORPORATION

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Wrap it . . . Ship it . . . Store it in

FIBREEN !

In Canada contact Alexander Murray & Co., Ltd., Montreal.

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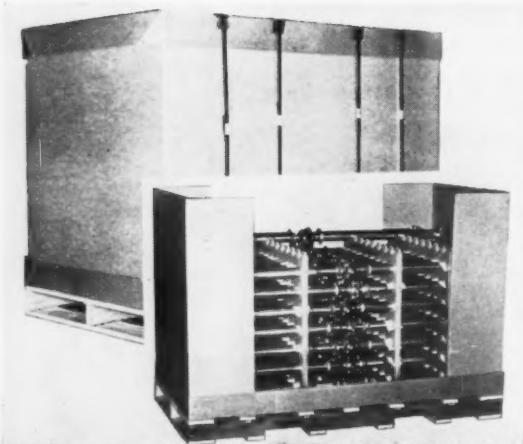
APRIL, 1958

99

← Circle No. 352 on Reader Service Card

How Non-Returnable Containers Cut Costs

- Low-cost containers for one-time use.
- Available for all kinds of products.
- New developments can save you money.



CORRUGATED RACKS PROTECT HEAVY PARTS

Special corrugated fibreboard racks can be designed for shipping parts of various sizes, shapes in corrugated boxes. Here heavy, delicate automotive drive shafts are suspended on interlocking die-cut racks. Delicate as these parts are, they are shipped this way without damage, saving 287 pounds per container.



INDIVIDUAL PARTITIONS FOR DELICATE PARTS

Large corrugated boxes having individual partitions permit this manufacturer to ship 80 carburetors per load. The box consists of body shell and two caps. Interior packing includes die-cut partitions, corrugated retaining strips and pads. The 4-layer boxes are strapped and shipped in 1-ton palletized pairs.



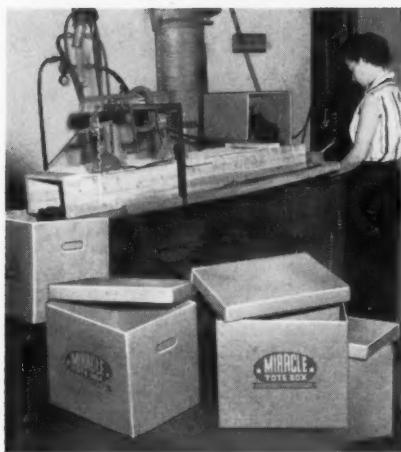
HOLDS 1500 POUNDS OF BULK MATERIAL

Eight-sided corrugated bulk container holds 1500 lbs, can replace 6 to 8 smaller units. It has a built-in pallet to simplify handling by fork truck. Delivered knocked down, it is set up in less than two minutes without gluing or taping. A sleeve extending down 10 inches from the top holds the lid in place, making it possible to ship the loaded container without the use of steel strapping. It is said to be rigid enough to permit stacking as many as five high without bulging of the sides.



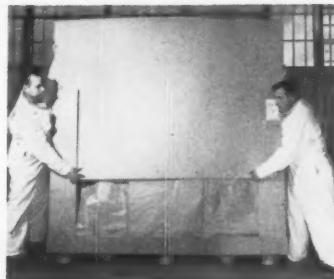
TRIPLE-THICK CORRUGATED STANDS UP TO WEAR

Containers of triple-wall corrugated board are durable, can hold extremely heavy loads. Parts can be secured to this material with nails and bolts. Latest developments make the material weather resistant. This 36x36x30 inch box contains heavy automotive parts.



FIBREBOARD TOTE BOX IS IDEAL FOR SMALL PARTS

A collapsible fibreboard tote box is ideally suited for small parts both for shipping and in-plant handling. This type of low-cost container can be used quickly and easily in a number of operations to cut handling, shipping costs. Lids protect the contents from dirt, damage. Finger grips permit easy manual handling when loads are light. They are sturdy enough for stacking several high in storage.

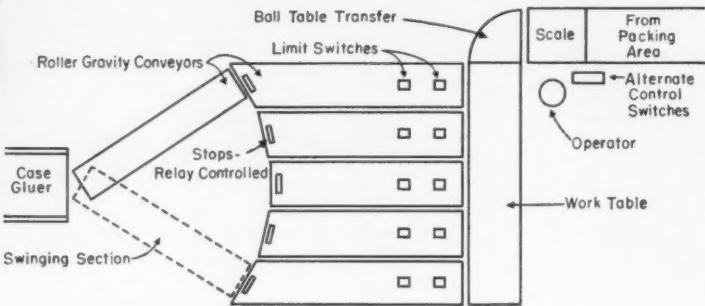
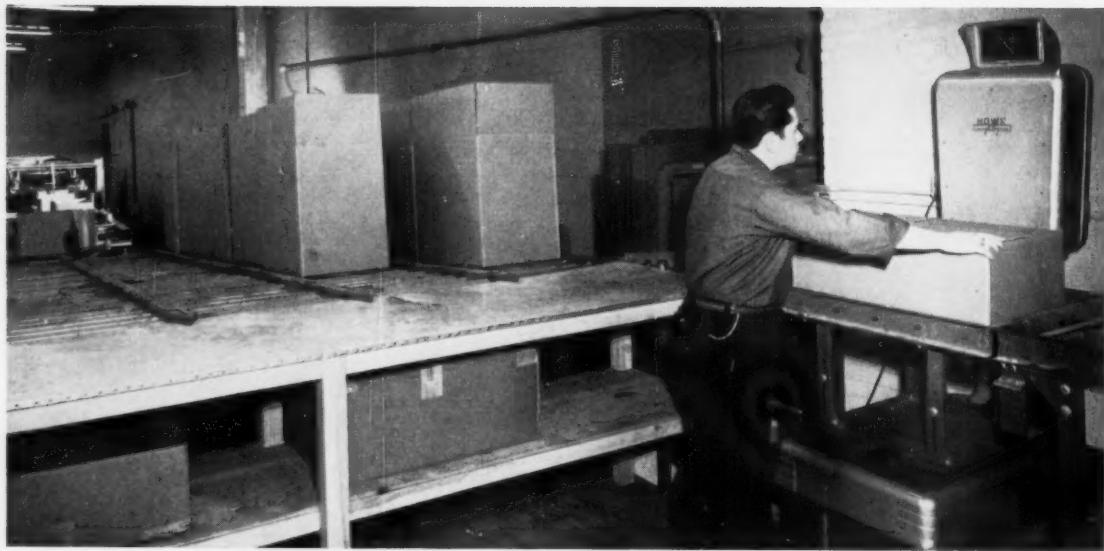


WIRE CLIPS HOLD SIDES ON PALLET BOX

This new development in collapsible wooden pallet boxes consists of top, palletized bottom, and four separate sides. They are held together by a number of special wire clips, said to be stronger than nails or screws. These clips are applied and removed by simple hand tools. The containers can be made for a variety of products, in any size or shape, in solid or open construction. They may be expendable or returnable, depending on the needs of the shipper. They are easily assembled in a matter of minutes.

LIGHTWEIGHT BOXES CUT AIR FREIGHT BILLS

Giant lightweight containers of corrugated fibreboard are strong enough to hold loads of furniture yet light enough for overseas and domestic air freight. They are cheap enough to permit discarding upon reaching their destination. Even the pallet base of this container is made of paper, consisting of single-face corrugated board spirally wound into posts. Interior volume is over 150 cubic feet, with rated load capacity at 2500 pounds. Shipped knocked down, the unit can be assembled quickly with just a hand stapling machine. Container and palletized base weigh about 75 pounds. The outside dimensions are: length, 84 inches; width, 58 inches; height, 61 inches. This container provides excellent protection for its contents. Double thick side walls resist damaging. Both base and lid are waterproof. Steel strapping closure protects contents from dirt, pilferage and other damage.



Conveyors Automate Case Gluing

FIYE SIZES of shipping cases are handled by this automated package gluing system in a clothing warehouse.

The containers come into the closing area on a roller conveyor which loads them onto a scale. The operator records the weight of each package and the store it's going to.

Then he pushes the box over a ball transfer, through a 90-degree turn, onto a metal-covered work table, and to the proper accumulating rack. There are five racks, one for each box size.

A control circuit automatically adjusts the gluer to the height of box being delivered. It takes about 1½ minutes for the machine to change from one setting to another. To keep down the number of change-overs, a system of electrical controls discharges packages only from full racks, not from partially-filled ones.

How It's Done

Two level-roller limit switches are located in the receiving end of each accumulating rack conveyor sec-

tion. Each pair of switches is placed so that they are slightly farther apart than the length of packages being handled. Both switches must be closed at the same time to complete the electrical circuit. This can not happen until the line is full.

When both switches are tripped, the mechanism for adjusting the sealer to the proper size is started, and the swing section is shifted to the discharge end of the accumulating rack to be unloaded. When everything is ready, the stop (at the discharge end of the rack) which holds the boxes on the line is retracted by a magnetic relay.

Protective interlocks prevent the gluer setting and the position of the swing section from being changed until the line is cleared, even though another rack should become filled.

The operator has a set of pushbuttons so that he can direct the flow to the gluer from any line or, if need be, stop the operation.

Courtesy Island Equipment Corp.



10 reasons why the Signode SFC is the savingest tool for strapping

\$ With the SFC, one handle does the tensioning and the sealing. That's why one hand is free to align the straps and move the package. The SFC is the only one-hand seal feed tool. But that's not all.

\$ You can put a cartridge of 50 Signode seals into the SFC magazine in a few seconds...as quickly as placing a loose seal on a strap. No seals wasted.

\$ The SFC is the simplest of all seal feed tools to learn about and to operate. Even our advertising agency man learned to use it in about 7 minutes.

\$ The SFC will not operate unless the strap is properly aligned. In most seal feed tools misalignment wastes strap. It can't happen with the SFC.

\$ Plenty of power...easily. The smooth-working SFC has a good long handle...straps directly from the dispenser. It's as good on big packages as on small ones.

\$ The SFC weighs only 6½ pounds, loaded. It's the lightest seal feed tool on the market, and the most versatile. You don't have to mount it in a fixed position. Take it anywhere in the plant.

\$ Light weight lets you use the SFC as easily on the sides of the package as on the top. (Anybody know of an overhead strapping application?)

\$ The short base and centered balance of the SFC makes it easy to use on small packages, on cleats or other narrow surfaces, or on the edge of a box.

\$ The SFC can be used with the strap dispenser either in front or behind the operator—whichever fits your layout best.

\$ With all its advantages, the SFC is the *lowest cost seal feed tool* on the market.



First in steel strapping

You will like the SFC. It is a rugged, high-quality tool. See and try it. No obligation. Call the Signode man near you, or write:

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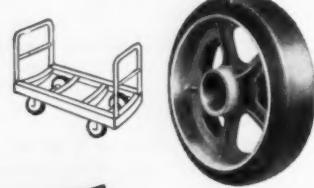
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PHOENIX

SOLID RUBBER TIRES WITH E-Z ROLLING TREAD

Handle Better!

The perfect type of tire to fit practically all industrial needs is the Phoenix cured-on solid rubber tire with the exclusive E-Z Rolling Tread Compound. Or if you need a special tread, such as hard rubber, static conducting or oil resisting, Phoenix has the answer. Be sure to check Phoenix—a dependable source for cured-on solid rubber industrial tires for 25 years!



Write for folder giving load-bearing data for 53 standard sizes.

RUBBER PRODUCTS DIVISION
PHOENIX
 MANUFACTURING COMPANY
Founded 1882
 JOLIET, ILLINOIS

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 104

Handling Goes West

HERE'S going to be something for everybody at the Second Western Material Handling Show. The Los Angeles Chapter of the American Material Handling Society is sponsoring the Show, which runs May 8, 9 and 10. Chapter spokesmen promise that there will be plenty of down-to-earth handling features, no matter what kind of business you're in—but the Show is also going to have some material handling "blue skying."

The Second Western Material Handling Show will be held in the Great Western Exhibit Center. That's at the intersection of the Santa Fe Freeway and Atlantic Boulevard, in the heart of the Los Angeles industrial area. It's a good location for a big show. Exhibitors will be spread over 52,000 square feet inside and 40,000 square feet outside. These exhibitors represent a cross-section of every kind of company connected with material handling and industrial packaging, plus many associated services.

A Handling Conference

There's a four-session material handling methods conference set up for May 8 and 9. They expect about 400 handling men at each session. **Down-to-Earth Practical Approaches** is the conference theme, chosen for its timely importance to management and operating men in Western plants.

Each session will have a main topic and the speakers will talk on various aspects of it. Each speaker is an authority on the particular phase of handling he will cover.

Session 1: Planning and Space Layout for Material Handling. Speakers will talk on look-ahead planning for your building, techniques of production space layout and proved methods of material handling layout.

Session 2: Warehousing, Operational Techniques and Parts Handling. There will be talks about small parts handling, storage aids and better wholesale operating techniques.

Session 3: Material Handling Equipment Selection, Application and Maintenance. Speakers will discuss techniques for selecting equipment, getting the most out of equipment and maintenance operation.

Session 4: How To Organize and Control Receiving and Shipping. The talks will be about techniques of shipping and receiving and ways to save in these operations.

A Rodeo

A big entertainment feature of the show is the 1958 National Fork Truck Rodeo. Lift truck cowboys will come from all over the country to compete for the Grand National Champion crown. Many AMHS chapters will have had rodeo eliminations by show time, so the finals will bring together the cream of the truck driving crop. May 10 is rodeo day.

Something Old, Something New

The something old is an Old Timers' Section—a showplace where antique equipment can be seen. Something new is the Handling-Packaging-Orama... an exhibit of futuristic design in handling equipment. And there'll even be a touch of glamour, with a Show Queen in the house. The doings will wind up with an all-industry barbecue on May 10.

Los Angeles is known as a big place, a friendly place—and a place where business opportunities are unlimited. The AMHS Los Angeles Chapter guarantees that the same will hold true of their Second Western Material Handling Show.



Call your AIM*... Pacific States Cast Iron Pipe Co. does...
Acme Steel Strapping protects pipe shipments

PACIFIC STATES CAST IRON PIPE CO., PROVO, UTAH, wanted to improve arrival condition of cast iron pressure pipe shipped in gondola cars. So they called in their Acme Idea Man.

Together, they arrived at a bracing method using heavy-duty Acme Steel Strapping that virtually eliminated in-transit damage (Idea No. U3-2). Lengths of lumber are placed on the sides and bottom of a gondola car and four lengths of strapping are laid in position. Pipe is loaded and strap is tensioned and sealed, resulting in two secure units.

Now pipe arrives in damage-free condition and is faster to unload since orderly lading presents no unusual materials handling problems or hazards for consignee personnel.

***Call your Acme Idea Man.** He has scores of time-saving, product-protecting ideas, many of which may help you. Write Dept. FDU-48, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Company of Canada, Ltd., 743 Warden Ave., Toronto 13, Ontario.

Wayne Dabb works with Pacific States Cast Iron Pipe Co. to solve their product protection problems.



**ACME
STEEL** STEEL STRAPPING

Circle No. 303 on Reader Service Card for more information

Job Studies Prove It . . .

General Engineered Wirebound Crates Cut Packing, Handling, Product Damage Costs

Electronics Associates, Inc.

Saves \$149,000 a year shipping delicate electronic computers

"Combined savings in handling, retouch time, container costs, packing time, and freight, since using the wirebound crate, amounted to \$149,000 in just one year," says Daniel Reiss, Traffic Manager, Electronic Associates, Inc., Long Branch, N. J. These impressive savings are possible by engineering the packaging into the assembly of the delicate electronic computers. Mass production of the wirebounds by General Box cuts crate costs and the lower shipping weights mean savings up to \$50 on each air freight shipment.



Packing costs cut in half for 300-lb. rolls of aluminum foil



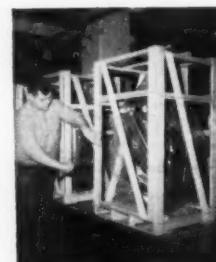
Cochran Foil Co.

The wirebound crate, at left, contains six 300-lb. rolls of aluminum foil. The rolls are easily damaged but will arrive in perfect condition in this wirebound container. The ingenious new wirebounds were developed at Cochran Foil Co., Louisville, Ky., in cooperation with General Box package designers. They are lighter, stronger and less costly than previous packing methods. Damage complaints have been eliminated. Packing costs have been cut in half.

General Electric Co.

Assembly line packing—no product damage for transformers

The 1000-lb. transformers rolling along this conveyor are coming at a one-a-minute rate. Packing speed like this is the result of integrating the crating operation into the assembly line and is but one of the many advantages of these General Box engineered wirebounds. General Electric Company is also getting better handling, 100% more warehouse space, and less tare weight at their Holyoke, Mass. plant. All adding up to a 30% saving in over-all packing costs that run into a six-figure dollar amount.



General Box container engineers can analyze your plant and product for important savings in packaging—just write or call today.

**ENGINEERED CONTAINERS
FOR EVERY SHIPPING NEED**

Wirebound Crates and Boxes, Generalift Pallet Boxes, Stitched Panel Crates, All-bound Boxes, Corrugated Containers
There are 11 factories conveniently located throughout the country.

General Box

GENERAL BOX COMPANY • 1847 Miner Street, Des Plaines, Ill.

SAFETY AWARD HANDLING OF ATOMIC MATERIALS . . .

(Continued from page 83)

The safety record:

Safety officials at NLO keep close track of all accidents. Even the slightest scratch enters the records as an injury. In 1957, with an average of 2638 employees, the company recorded 2377 injuries. Only eight of these were serious enough to be classified as lost time accidents.

Chief of Fire and Safety Henry Eberle keeps accurate records of all accidents in the company. He is constantly comparing his records with averages published by the National Safety Council. Here's how they compare:

Frequency (number of disabling injuries per million man hours)—NSC average for non-ferrous metals producers is 8.27. All-industry is 6.38. National Lead averaged 1.49 in 1957.

Severity (number of days lost through injuries per million man hours)—NSC average for non-ferrous metals producers is 1234. All-industry is 733. National Lead averaged 122 in 1957.

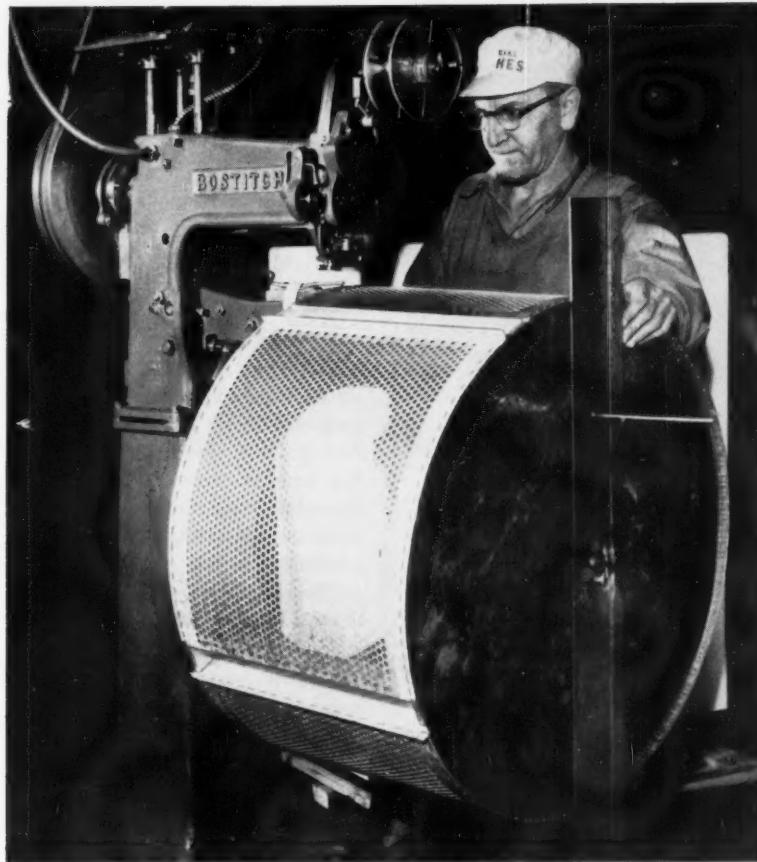
Trunk and back injuries—NSC average shows that 27 percent of all plant injuries are to trunk and back. National Lead averaged 7 percent in 1957.

How they do it:

The Atomic Energy Commission expects strict safety measures in all its plants. Generally, its rules are far more strict than most state codes. As a result, companies working for AEC rank among the safest in the nation.

But National Lead's record is outstanding even among AEC installations. Eight safety awards hanging on its walls attest to its record.

Aside from an elaborate safety program, two things work in the



Stapling replaced spot welding in assembling metal tumblers for clothes dryers. Assembly time dropped 50%!—and costly excess framework required with spot welding was eliminated.



Stapling is "more secure and twice as fast" says car seat manufacturer who changed from slow gluing method.



This electrical manufacturer used to tape wires to fibre laminations for transformers. Staples do the job at $\frac{1}{3}$ the cost.



Gluing slowed production of paper sales displays and tied up space. Assembly line stapling operation doubled production.

Speed, strength, economy, flexibility—

How can stapling improve your fastening?

These are just a few of the ways Bostitch stapling solves industrial fastening problems. There are hundreds more examples in industries making products of almost every kind. For Bostitch makes 800 different stapling machines and 200 kinds of staples—each designed to fit specific fastening needs.

One of these capsule case histories may suggest a way your company can use stapling profitably in production. Or you may have an entirely different

problem—one involving speed, or strength, or low unit costs, or the fastening of unlike materials.

In any case, a Bostitch Economy Man, one of the 400 who work out of 123 U. S. and Canadian cities, will be glad to talk with you, survey your problem, and tell you honestly if stapling can help. Just look under "Bostitch" in your phone book—or send us the coupon for the latest technical bulletins about the stapling applications that interest you.

Is Bostitch stapling the answer to your production fastening problems? For helpful information, mark and mail this coupon.

Fasten it better and faster with

BOSTITCH®
STAPLERS AND STAPLES

Bostitch, 704 Briggs Drive, East Greenwich, R. I.

Please send me free information on ways to cut costs with stapling.

I want to fasten:

<input type="checkbox"/> Light metals	<input type="checkbox"/> Fabric
<input type="checkbox"/> Corrugated cardboard	<input type="checkbox"/> Leather
<input type="checkbox"/> Cartons	<input type="checkbox"/> Plastic
	<input type="checkbox"/> Wood
	<input type="checkbox"/> Roofing
	<input type="checkbox"/> Rubber

Name _____

Company _____

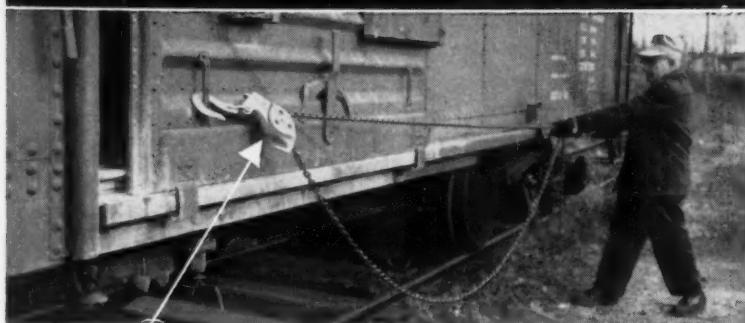
Address _____

City _____ Zone _____ State _____

Circle No. 323 on Reader Service Card for more information

Circle No. 398 on Reader Service Card for more information

TERRIFIC PULLING POWER!



THE NOLAN ONE MAN CAR DOOR OPENER opens or closes any freight car door in 20 seconds or less

The Nolan Model H One-Man Car Door Opener has been in successful use for many years, by thousands of companies who recognize its exclusive features of speed and safety. This popular tool enables one man to do by himself what formerly required the time and assistance of several men, usually taken off other jobs, to tug and yank while risking mangled hands, strained backs, and other serious injuries.

The average time required by one man to open or close a boxcar door with the Nolan Model H is 20 seconds or less. With a few quick pulls on the anchor chain, as shown here, you can get the most stubborn door rolling and wide open in a jiffy.

Your investment in a new Nolan Model H One-Man Car Door Opener will pay dividends by saving time, life and limbs throughout its long and useful life. It will keep men working steadily and safely without exposing them to the hazards present when make-shift methods are used to open car doors. Note above how operator is away from the front of the door away from its injurious, killing effects if it should fall!

Order one or more
Nolan Model H Car Door
Openers Today!

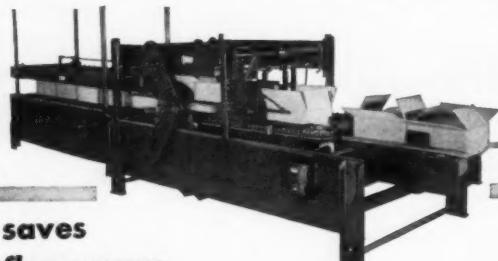


THE NOLAN COMPANY
110 PENNSYLVANIA ST.
BOWERSTON, OHIO

ONLY
\$39.50
EACH

F.O.B. Bowerston

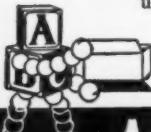
A-B-C Short Case Sealer



saves
floor space

This A-B-C Short Case Sealer really increases packaging efficiency. Glues, folds and seals either or both top and bottom flaps in one operation—automatically. Speeds up to 30 cases a minute. Finest welded construction. Ball bearing construction reduces maintenance. Guaranteed not to get out of "time."

WHATEVER YOUR PACKAGING PROBLEM, there's a proved A-B-C machine to solve it—case sealers, unloaders and unscramblers, side sealers and hand gluers.



WRITE TODAY FOR DETAILS—
FLOOR PLANS & SPECS

A-B-C PACKAGING MACHINE CORP.
TARPOON SPRINGS, FLORIDA

Circle 455 on Reader Service Card for more information
108

SAFETY AWARD HANDLING OF ATOMIC MATERIALS . . .

Continued

company's favor. First is the nature of the uranium itself. Uranium is one of the heaviest materials known (almost twice the weight of lead; three times the weight of iron). It's so heavy that workers never try to lift loads manually. That probably accounts for the small number of trunk and back injuries. The second advantage is a psychological one. Everyone is constantly aware of the safety regulations throughout the plant. Even though there is no possibility of nuclear explosion, and very little radiation, just the thought of the word uranium suggests caution to the workers. That keeps them on their toes.

Here are the special steps the company takes to protect its workers:

Radiation badges for all em-

Quicker, Easier, Less Costly STENCILING with REYNOLDS SPRAY STENCIL INKS quick drying—waterproof

Specially compounded ink assures
utmost economy and satisfaction.

Many outstanding advantages:

MODERN easy to hold aerosol container sprays a dense cone of specially formulated opaque ink at the touch of a finger. Not a paint or lacquer. Dries instantly. Always ready to use. No brushes to clean or load. No drying out. No mess. No waste. No build-up or curtaining.

PROVEN BEST for all stenciling on boxes, crates, cartons, drums, or any steel, wood, fabric, concrete or other surface.

9 COLORS. Ideal for color coding equipment and materials, design layout work, inspection marking, department routing, signs and warnings, etc.

ASK US ALSO about Reynolds sprayed Stencil Kover®, the opaque tan colored block-out fluid that covers over old stenciling or other markings. Dries quickly. Permits re-stenciling of original containers, correction of errors, and salvaging overruns of printed cartons.



WRITE for color card
and name of nearest
dealer TODAY!

**REYNOLDS
INK, INC.**

4508 EUCLID AVE.
CLEVELAND 3, OHIO

Circle 409 on Reader Service Card for more information
FLOW

ployees. Everyone who enters the production area, from officers down to plant personnel or visitors, is required to wear a radiation film badge at all times. The exposure recorded on these badges is entered in each individual's permanent record, and badges are exchanged every two weeks. Over 70,000 badges were processed in 1957, and while a small 0.06% of these indicated a slight exposure, no one was over-exposed on the annual compilation.

Protective clothing. Both the ore and the chemicals used in the process are toxic. To prevent contamination of the individual's skin and personal clothing, each production worker is provided with a complete change of clothing every day. The company supplies them with work uniforms, complete with underwear, socks and shoes. Before going home, each worker has to take off his plant clothes, take a shower, then change to his street clothes. In this way there is no possibility of contamination being carried away from the plant area.

On-the-job medical care. A full staff of doctors and nurses are always on duty at National Lead. The medical center is so well equipped that doctors can perform minor surgery there if they have to. But usually their work consists of minor patch-ups. Employees are not even allowed to perform simple first aid by themselves. There is not so much as a finger bandage to be found anywhere in any of the plant areas, except in the medical center. Workers have been educated to report all injuries, even minor scratches. And before they can enter the medical center, which is in the non-contaminated general office area, they have to change back from plant clothes to street apparel. If a serious injury should occur and the worker can't change clothes, he is treated in a special room kept separate from the rest of the building.



1 Staple special cartons and corrugated fillers far faster with powerful DUO-FAST Air Pliers. Portable. You save time by taking tool to the work, instead of moving work to a big stationary stitcher!

2 Attach tags, labels, freight bills with DUO-FAST "Outward-Clinch" Stapler. Staple-legs drive in, then out to guard carton contents from damage. Holds better than tape at 1/10th the cost!

Which of these 3 stapling ideas can save most in your packaging?

Shown here are 3 of the ways DUO-FAST automatic stapling can reduce costs for you. There are many more.

Cartoning, bagging, padding, tagging—whatever your packing operation may be, you'll do it faster, neater and easier with a handy DUO-FAST Stapler.

Ask your DUO-FAST man. With over 150 staple-tacking models to draw on, he'll show you the safe, accurate, *automatic* way to streamline your fastening methods.

Free maintenance service. And remember: every DUO-FAST Stapler carries a money-saving Free Service Guarantee! Send coupon below for free "Timesavers" Bulletin FT-50.



3 Make up cartons for a fraction the cost of tape with a DUO-FAST Footpower Stapler. Leaves both hands free for neater, faster work. Easily portable—weighs just 38 lbs.

DUO-FAST
Staplers • Tackers • Staples

8135



New Ideas for you!

FASTENER CORPORATION

3756-58 River Rd., Franklin Park, Ill.

Without cost or obligation, please:

- send DUO-FAST Bulletin FT-50, "Timesavers for Shipping Departments."
- have a DUO-FAST man call on us.

Name _____

Firm _____

Address _____

City _____ Zone _____ State _____

Circle No. 346 on Reader Service Card for more information

When tape seals fast



handles easily



sticks tight even at 4° *



*Official reading — New York, February 18, 1958

it has to be COLDPROOF
Blue Ribbon Tape
THE LIGHTNING SEAL, ODORLESS GUMMED TAPE
with exclusive Renacel adhesive



See your paper distributor or write Dept. F-4

HUDSON Pulp & Paper Corp.

477 Madison Avenue, New York 22, N. Y.

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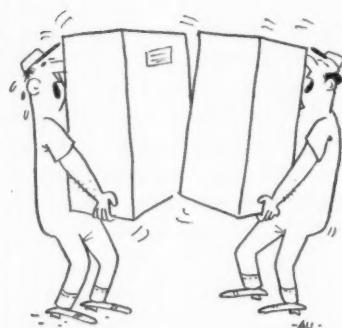
110

SAFETY AWARD HANDLING
OF ATOMIC MATERIALS . . .

Continued

Fire protection. Uranium is a pyrophoric metal. It can, and sometimes does, burst into flame spontaneously if finely divided. In burning it produces toxic uranium oxide. Because of these hazards, the finely divided metal is always handled in small units. That way, spontaneous fires can be kept small. And special spark-proof handling equipment is used wherever a spark could ignite chips. The fire apparatus on the premises is fully equipped to handle all kinds of fires. One of its special pieces of equipment is a plastic shield, designed to fit over the front of any fork truck. If a fire breaks out, the nearest fork truck is recruited to carry the burning material outside. The driver quickly places the plastic shield over the front of his truck, to protect himself from his burning load. Then he hustles the load out into the open, where it can be extinguished without endangering workers nearby.

Waste control. All valuable materials are recovered from sewage, and from air exhausts. This is not only a matter of safety, but economy as well. Because the waste uranium compounds are so valuable that it is worthwhile to filter them out for re-use.



Charlie, give me a hand, will ya?
Joe, give me a hand, will ya?

FLOW

PLANNED HANDLING IS SAFE HANDLING . . .

(Continued from page 68)

loaded onto six big trailers which are hauled around the Division to make deliveries. And the dock is cleared of the odd-assorted piles that could trip, bruise or fall.

The dragline has a special built-in safety feature: it can be started up from four control points, but there is a 20-second wait while a warning horn blows.

Drum Handling

The Division also has developed some unusual equipment for drum handling. It is designed to take the "bull-work" out of handling and leave it to the machine. The equipment is modified to meet particular needs as in the case of a split-end conveyor which is being used to transfer drums onto fork lift trucks. In the lines of twin roller conveyors, gaps were spaced near the end of the rollers to allow entry of a four-pronged set of forks. In this way, the truck pulls alongside of the conveyor, takes off four drums at a time (see photo). The other conveyor line had divided rollers that ran a fork's length back from the end. The truck, equipped with two extra-wide forks, would approach this sort of conveyor from the front. The forks fit into the slots and take off four drums.

Midland Division also uses these labor savers: 1) A metal rack that holds drums up at an angle so they can be quarter-rolled with ease. 2) A truck with a rack on its platform for hauling gas cylinders (see photo).

Sometimes the operators provide the ideas for equipment. Wolf recalled that in one department a job involved lifting boxes off and on a scale. The boxes weighed only 40 pounds but the Division decided to install some kind of handling as a safety measure. The department foreman took brick tongs, had a flat piece of metal welded on and hooked it up to a chain hoist. It worked fine and is still in use.

Which explains why The Dow Chemical Company's Midland Division has won so many NSC Awards of Honor: *Everybody's interested in doing things safely.*

A COMPLETE LINE OF GENERAL PURPOSE BELT CONVEYERS engineered and standardized by

MATHEWS



A reversible General Purpose Belt Conveyer serving parallel roller conveyor storage lines.

THESE General Purpose Belt Conveyers are furnished in a wide range of belt widths and section lengths. They can be assembled easily, for all parts are standardized and furnished from stock. The conveyers have several features which make them especially practical for the average package handling problem. The drive unit may be located at the end, or at any convenient point beneath the conveyer. End roller assemblies, takeups, and three-pulley devices are all standardized and easily installed.

Floor and hanger supports have a wide range of adjustment, and are especially convenient in situations where conveyers must be arranged to meet production requirements.

Write for Bulletin G.P.53 and Catalog 856 today.



MATHEWS CONVEYER COMPANY
GENERAL OFFICES ELLWOOD CITY, PENNSYLVANIA
PACIFIC COAST DIV. MATHEWS CONVEYER COMPANY WEST COAST,
SAN CARLOS, CALIFORNIA
CANADIAN DIVISION . MATHEWS CONVEYER COMPANY, LTD., PORT HOPE,
ONTARIO.



MATHEWS

Over Fifty Years of Leadership in Mechanized Handling

Circle No. 382 on Reader Service Card for more information



These labels can't come off

They're facsimile labels. You print them directly on cartons. Saves cost of real labels. Faster than brush stenciling. Cuts shipping losses.

Here's a fast, systematic way for addressing multiple shipments. In one easy motion, you can imprint both a facsimile label and customer's address directly on a carton. 30 to 40 cartons can be addressed in a minute. No labels to type or apply; no ink brushes and stencilboards to wield. Facsimile labels are sharp and clear, yet can be easily blocked out for re-handling by consignee.

Weber

marking
systems

Division of Weber Addressing Machine Co., Inc.
Mount Prospect, Illinois

DEALER SALES AND SERVICE IN ALL PRINCIPAL CITIES

FREE BULLETIN
on Weber-Facsimile Label System. Just mail this coupon.



WEBER MARKING SYSTEMS
Dept. 1-D
Mount Prospect, Illinois

Company _____

Individual _____

Position _____

Address _____

City _____ Zone _____ State _____



Circle No. 433 on Reader Service Card for more information

CAMPBELL'S RECIPE FOR SAFETY . . .

(Continued from page 77)

Also, of course, these cans need a complete assortment of labels. (Except in the case of frozen soups—those cans are lithographed).

For each product—about 65 in all—there are many associated handlings. Perishables, like raw meats, vegetables, clams and oysters, must be handled from receiving to processing or cold storage as quickly as possible. They go through cleaning, cutting, peeling, dicing and cooking processes. Or, if they are non-perishables, they must be stored in proper quantities until needed and then moved promptly to the right place. By-products (clam shells, trimmings, cooked-out bones) must be disposed of promptly and efficiently.

When an accident occurs it is almost certain to be related to material handling in some way. Small wonder that Hutzley is almost as much a material handling man as he is a safety man.

Driver Training

One of the more important phases of Campbell's safety program is a power truck driver training and licensing program. No employee other than a licensed driver may operate a vehicle. A large badge identifies qualified drivers.

To qualify, a driver has to meet these four primary requirements: (1) Good eyesight; (2) Color perception; (3) Ability to understand instructions; (4) Ability to read and write.

If he is O.K. in all four, then he is ready for training. An experienced driver teaches him to operate a truck safely. He studies a manual, "Safe and Efficient Power-Truck Operation" and

For your convenience, you can get information on any of the products advertised in this issue by using the Reader Service card on pages 55 and 56. All inquiries are processed promptly and efficiently by our Remington-Rand Department.

takes a written examination covering its contents.

Finally, he must pass a driving ability test, under actual working conditions in the plant. Then, he gets his license.

Planning for Safety

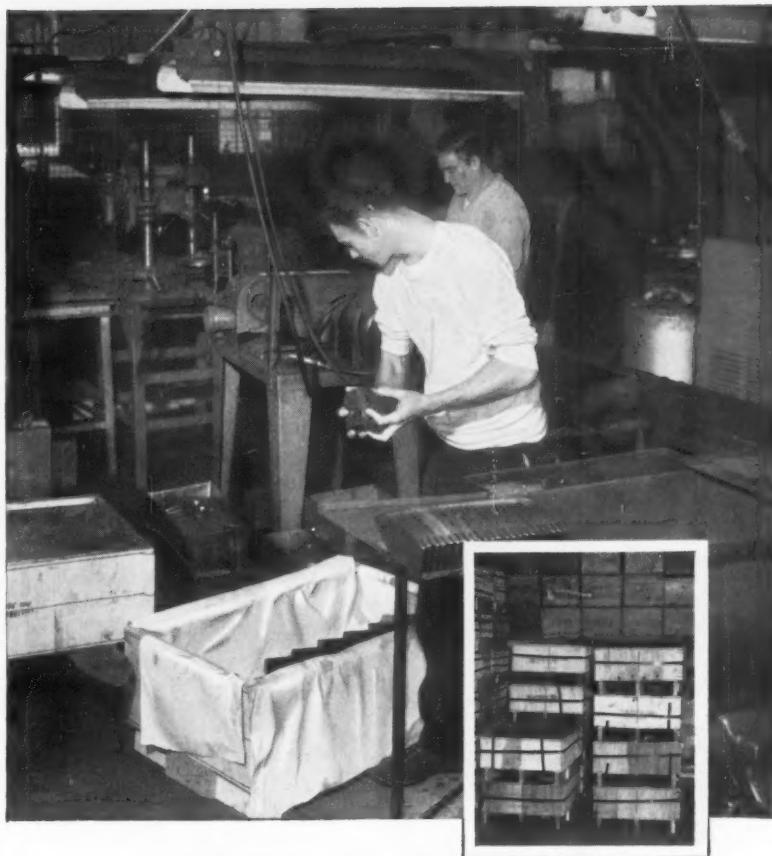
When a new type of material handling equipment is installed, the safety engineer prepares a report on any hazards which might be involved in its operation.

For example, two LP-Gas powered trucks were bought recently. Hutzley prepared a detailed report on proper operation, maintenance and refueling. He called attention to precautionary measures which were necessary to insure safety at all times.

New construction gets Hutzley's attention too. He reviews new plans to try to foresee and stop unsafe conditions and practices. Then, he gives each new installation a final check before it goes into operation.

Safety Standards

Now in the works at Campbell Soup Co. is a Minimum Safety Standards manual. When completed, it will include standard engineering drawings for use in designing building and processes. Included in the drawing for any given piece of equipment will be the minimum safety standards established by the safety engineer. For example, a drawing of a step-ladder will include safety treads. The designer can drop that drawing into his plan, as is, without fear of neglecting safety.



BENDIX SPECIES WIREBOUNDS FOR SAFETY AND ECONOMY

As part of its materials handling program, the Bendix Products Division of the Bendix Aviation Corporation at South Bend, Indiana, is specifying that many of its suppliers ship in Wirebound Pallet Boxes. Of course, it's easy to understand why. They are suitably constructed for fork-lift truck handling thus facilitating materials handling operations. They have cut packing time, cut tare weight, and reduced damage claims. Wirebounds are famed for the economies they've effected.

Wirebound Pallet Boxes are made of tough wood reinforced with strong steel wire. You can stand 'em high without covers, fill 'em full and heavy... up to thousands of pounds. They handle any bulk product, may be stored indoors or out, can be made resilient or rigid, expendable or reusable—according to the requirements of the specific use.

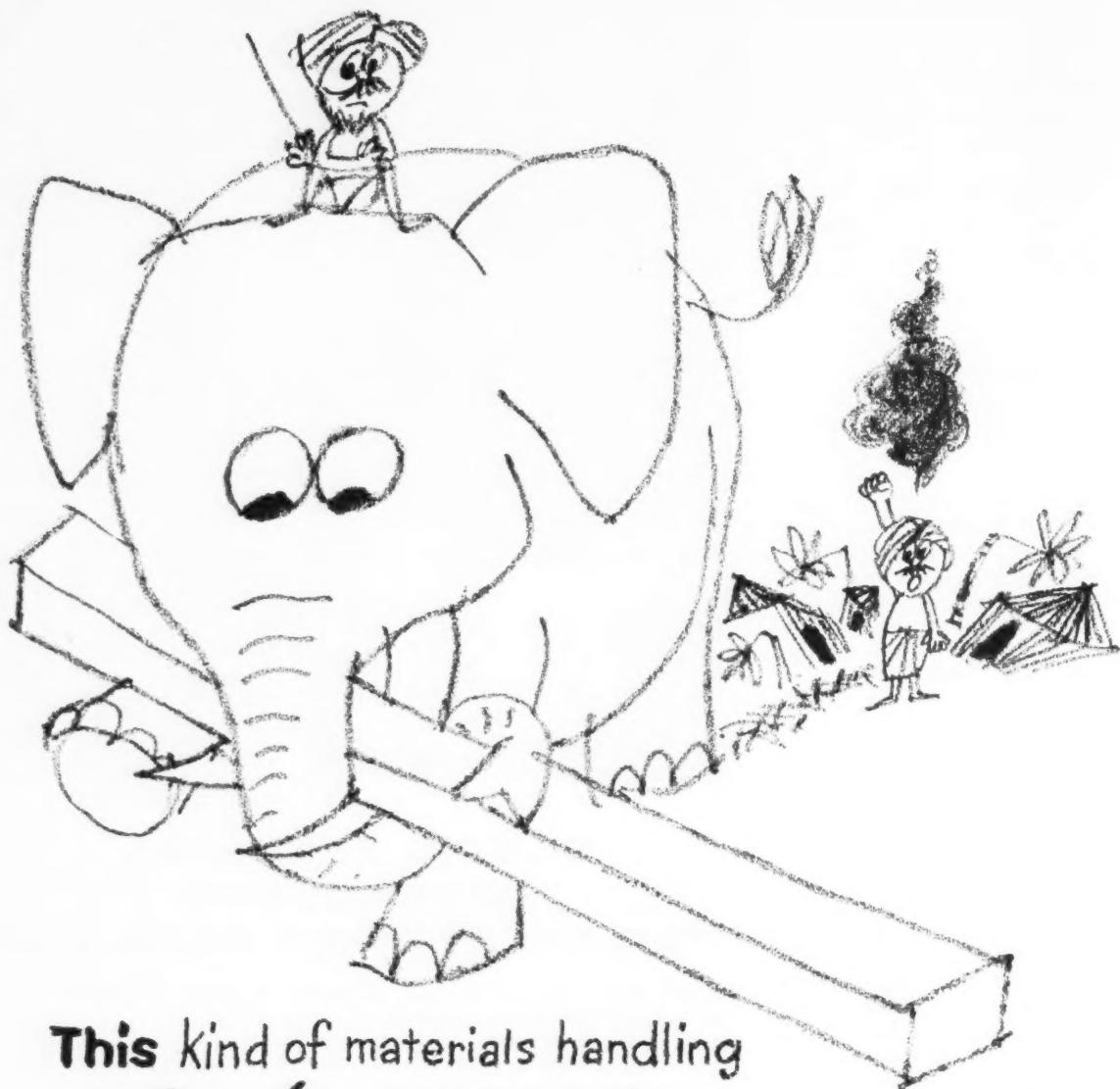


Write today for new booklet!

"Wirebound Pallet Boxes" It gives full details on rugged, ready, reliable Wirebound Pallet Boxes, industry's handiest helpers.

**WIREBOUND BOX
MANUFACTURERS ASSOCIATION**
Room 1171, 327 South LaSalle Street, Chicago 4, Illinois

**Wirebound
BOXES & CRATES**



This kind of materials handling is fine (for Cambodia)

But you're not in Cambodia. You're here, and that's good. Because Roebling is here, too, with the complete line of wire rope slings for every lifting need.

All Roebling Slings (and there are many types in a wide range of sizes and capacities) are precision-made for stability under load... uniform and consistent strength.

The All-Purpose Sling, for example, embodies the rolled loop and tapered sleeve attachment which, beside developing full catalog strength, makes it safe to handle; no servings, all wire ends are covered by the tapered sleeve. Further, the compact sleeve does away

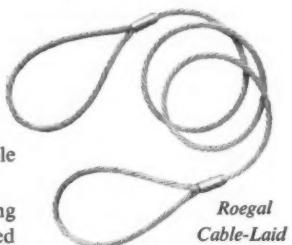
with bulky spliced sections that reduce usable sling length.

Complete details on the major Roebling Sling types... All-Purpose with Tapered Sleeve, Roegal® Cable-Laid and "Flatweave" ... are given in the Roebling Sling Book. This will be sent to you when you request it. Write to Wire Rope Division, John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

Your Roebling salesman or distributor can be of large help on any matter dealing with slings. Make use of him.

ROEBLING
Branch Offices in Principal Cities
Subsidiary of The Colorado Fuel and Iron Corporation

Circle No. 410 on Reader Service Card for more information



Roegal
Cable-Laid
Slings



Roebling
"Flatweave"
Slings



USEFUL LITERATURE

Battery Charger Bulletin:

C & D Batteries, Inc., has issued Bulletin AR-100/58 to cover the use, design and construction of the company's new line of AutoReg Silicon Chargers for 12 volt electric industrial trucks. The AutoReg uses a silicon rectifier element, is a single-phase charger that can be plugged into any standard 115 V AC 60-cycle, single-phase convenience outlet. The charger can be mounted on top of a C & D truck battery case or attached to a wall close to the electric outlet.

Circle 16 on Reader Service Card

Handling Systems Described:

"Integrated Material Handling Systems" is the title of Bulletin PE released by Nutting Truck & Caster Co. This brochure describes the company's line of floor trucks, trailers, casters and wheels. It emphasizes the company's services in planning and installing integrated systems. These systems include its products used both as primary and/or auxiliary units, and in conjunction with other types of equipment.

Circle 17 on Reader Service Card

Conveyor that Stacks:

Jervis B. Webb Co. has issued a bulletin (F 957) about Flex-Bend "one man loader." This unit combines a flexible 12 or 18 inch wide wire mesh belt conveyor with a fully adjustable stacker. The brochure tells about the Flex-Bend's components and how they are assembled. There is a page about the conveyor's use as a box car unloader.

Circle 18 on Reader Service Card

Tells About Shipping Aids:

"How To Improve the Marking and Taping of Your Shipments" is the title of a folder from Marsh Stencil Machine Co. There are sections on the stencil machine, fountain brushes, stencil inks and the electric tape machine. For marking, lettering and drawing, the Marsh 77 Felt-Point Pen and the Marsh 99 Felt Tip Marker are pictured and described.

Circle 19 on Reader Service Card

Tells About High Free Lift:

Bulletin 1523C from Yale & Towne Manufacturing Co. outlines features of the Yale Duplex hydraulic lifting cylinder. This cylinder is used to provide

very high free lift for industrial lift trucks. (Free lift is lift that is accomplished without increasing the overall height of the truck). The Duplex cylinder can be provided on all Yale gas, LP-gas, diesel and electric powered lift trucks in capacities up to 6,000 pounds.

Circle 20 on Reader Service Card

For Safe Operating of Fork Trucks:

Lewis-Shepard Products, Inc., has written an eight-page brochure on how to operate fork lift trucks more safely. Illustrated with cartoon drawings, the booklet not only points out specific safe operating practices, but also serves as a guide in setting up a fork truck driver training course. Among the topics discussed are selecting operators, classroom instruction, driving instruction and maintenance responsibilities of the trained operator.

Circle 21 on Reader Service Card

Shows Heavy Duty Electric Hoists:

Wright Hoist Division, American Chain & Cable Co., Inc., has published Bulletin E-58. This 24-page booklet describes the complete line of Frame 2 and Frame 3 electric hoists. Six types of electric hoists, including lug suspension, plain trolley, geared trolley, 4-wheel motor driven trolley, variable speed motor driven trolley and close headroom units with lifting capacities of $\frac{1}{2}$ to 10 tons are listed. Construction features are explained in detailed cutaway diagrams.

Circle 22 on Reader Service Card

Safety Devices Included in Bulletin:

Included in Bulletin MS-57 from Wire and Iron Products are wire machinery guards, conveyor catch guards and other safety products manufactured by the company. The bulletin also describes a wide range of wire parts-handling baskets for conveying and processing production parts. Also shown are conveyor hooks, plating racks and many special-purpose handling items.

Circle 23 on Reader Service Card

Applications Studies:

"Power Strapping Studies" is the title of a brochure from Stanley Steel Strap-

ping Division of the Stanley Works. This bulletin includes applications studies of various power strapping tools. The Model PT air-powered strapping tool, the ESM electric skid magazine tool, the ECL electric heavy duty strapping tool, and Models SPS-2A and SPS-2V electric strapping machine are some of the strapping devices mentioned.

Circle 24 on Reader Service Card

Brochure Stresses Operator Efficiency:

Hyster Company offers a brochure on the Space Saver cushion-tired trucks in the 6,000, 7,000 and 8,000 pound capacity. Its 16 pages offer data on operating performance, maintenance and design. The importance of operator efficiency, comfort and visibility is stressed.

Circle 25 on Reader Service Card

Film Shows How To Use Tapes:

A 32-minute color movie has been produced by Minnesota Mining and Manufacturing Co. to show the economics of proper tape usage. The film, entitled "Two Billion Rolls," contains many on-the-job sequences shot in plants around the country. The advantages of mechanically dispensed and applied pressure sensitive tapes are described. Included in the movie is a simplified explanation of how "Scotch" brand tapes are designed for specific uses through various combinations of backing materials and adhesives.

Circle 26 on Reader Service Card

Shipping Data:

The fifth edition of "Ports of the World" has been published by Insurance Company of North America. This is a 46-page guide to port facilities and conditions around the world. "Ports of the World" is produced for the use of exporting and packing industries. For each port it describes discharge facilities, labor and handling, delay and congestion, pilferage and damage, and climate.

Circle 27 on Reader Service Card

Offers Catalog:

"Everything that Hangs from the Crane Hook" is found in a catalog from Heppenstall Co. This includes automatic and motorized tongs for lifting material of any shape, weight or size, as well as sheet lifters, rack lifters, mo-

Circle No. 440 on Reader Service Card for more information

Always the best...now even better

NEW forward-design

ROLACODER

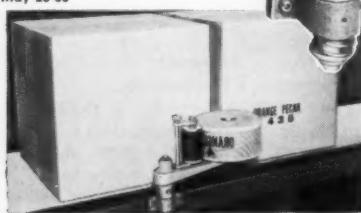
AUTOMATIC CASE-MARKING AND CODE-DATING ATTACHMENT

Holds enough ink for a week!

- Extra compact—adaptable to any conveyor, case-sealer, etc.
- Simplified construction—for trouble-free performance
- Precision-built—assures sharp uniform imprints up to 3" deep, accurately located on case after case
- Swing-out mounting for easier maintenance
- Patented "Metalok®" type base holds type more securely, makes copy changing easier

Write today for full details
about the new "Series 300 Rolacoder" case-marking attachment

See it at the
PACKAGING SHOW ...
Booth 1205,
New York Coliseum,
May 26-30



First and foremost in
automatic production-line
CODING, MARKING and
IMPRINTING machines

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HILLSIDE 5, N.J.

In Canada: Richardson Agencies, Ltd.
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FOR LOW COST MATERIAL HANDLING



MODEL B

USE...
BIGELOW-GARVEY
COLLAPSIBLE
TIGHT-CORNER
PALLET BOXES

THEY'RE REUSABLE

- Economical
- Safe and Neat
- More Convenient
- Quickly Assembled
- Handles up to 5000 lbs.
- Collapsible When Not in Use
- Specially Made For Your Needs



MODEL C



EXPENDABLE

Over 33 Years Material Handling Experience

MILLS ARKANSAS GEORGIA WISCONSIN MINNESOTA KENTUCKY

Always Check Write for complete details and prices to...

BIGELOW-GARVEY lumber company

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Circle 321 on Reader Service Card

Write for literature
and name of nearest
distributor.

CAPCO

622-24 PROSPECT AVENUE • KANSAS CITY 24, MISSOURI

Circle 327 on Reader Service Card

... USEFUL LITERATURE

Continued

torized rotating hooks, "C" hooks and other hooks. The catalog shows nearly 100 items; its basic arrangement is by the shape of the material to be lifted (square, rectangular, circular, cylindrical).

Circle 28 on Reader Service Card

Better Than A Mink Coat:

A coating of Petrothene is better protection than mink coat, says U. S. Industrial Chemicals Co. In a 4-page bulletin published recently, the firm describes Petrothene as a polyethylene resin that is coated over kraft papers, fabrics, films or foil. It is skin tight, water and vapor resistant, and heat-sealable. USI offers engineering service to show you how these polyethylene coated materials can be used as barrier wraps, etc.

(Also reviewed in February)

Circle 29 on Reader Service Card

Product Information:

Morse Manufacturing Co., Inc., has prepared a leaflet on drum and barrel handling equipment and accessories. There are action photos on the Model 80 barrel-lift, the Model 85 Drum-Karrier and the Rock-A-Drum vertical truck No. 44. Also included are illustrations and descriptions of drum cradles, stands, dollies, upenders, tippers, etc.

Circle 30 on Reader Service Card

CAPCO DOCK COVERS GIVE YEAR 'ROUND PROTECTION

CAPCO Dock Covers completely
enclose the space between car
and building doorways protecting
loading and unloading during
bad weather... preventing
accidents... insuring against loss
of heat or refrigeration. 51 different
models in any size for
every loading problem.



Tells about Coatings and Adhesives:

Protective coating and adhesive information can be found in the 1958 Reference Guide published by Dow Corning Corp. This catalog describes over 150 commercially available silicone products. Detailed charts, tables, graphs and data on properties and performance are included.

Circle 31 on Reader Service Card

Steel Benches Presented:

Special Equiptogram No. 204 comes from Equipto to present 15 pages of steel benches. Steel bins, shelves, lockers, trucks, cabinets, etc., are included.

Circle 32 on Reader Service Card

Pneumatic Conveying Explained:

Sprout, Waldron & Co., Inc., offers reprints of a technical article on the applications and limitations of pneumatic conveying. Prepared by John Fischer, Manager of the Material Handling Dept., the article discusses advantages in terms of cleanliness, safety

Conforms to any shape



GREEN CORE® Super Cloth Rap HEAVYWEIGHT

Grade C, Type I, Class II

Mid States Gummed Paper Company was the first to qualify a Grade C Barrier under Specification MIL-B-121A. This approved barrier material is so easy to handle that it speeds your packaging operations and cuts production costs. Extremely flexible, it conforms to the shape of any product. It's waterproofed, greaseproofed and self-sealing. Lock seam joints are as grease-resistant as the material itself.

Green Core Super Cloth Rap, Heavyweight, has a greaseproof film on cloth backing, coated on both sides with compounded, microcrystalline wax. The material is particularly recommended for Methods 1, 1A-1 and 1A-2 under MIL-P-116. Qualified Products List Numbers will be furnished upon request.

Write for samples and complete test data

MID-STATES GUMMED PAPER DIVISION
MINNESOTA MINING & MANUFACTURING COMPANY
Dept. 418, 6850 So. Harlem Ave., Bedford Park, Ill., Argo P. O.

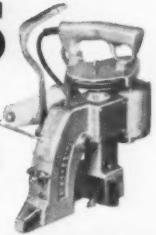
New York Syracuse Philadelphia Boston Atlanta
Cleveland Detroit St. Louis Los Angeles

Circle 390 on Reader Service Card for more information
APRIL, 1958

NOW!

TAPE-BOUND CLOSURES

with the
**FISCHBEIN Portable
BAG CLOSER**



FISCHBEIN FASEAL TAPE BINDING ATTACHMENT

- Perfect tape-bound closures
- Complete portability maintained
- Quickly removed when tape binding is not required
- Simple! Versatile! Economical!

FOR DETAILS and complete
CATALOG FILE of
FISCHBEIN BAG CLOSING
EQUIPMENT, mail coupon to:



DAVE FISCHBEIN CO., DEPT. 4B
2720 30th Avenue South, Minneapolis 6, Minn.

Name _____

Firm Name _____

Address _____

Circle 349 on Reader Service Card for more information
117

Circle No. 362 on Reader Service Card for more information

NOW CUT STENCILS WITH AIR POWER

NEW IDEAL "POWER-PAC"

attachment features push button, air-operation . . . takes ALL THE STRAIN OUT OF STENCIL CUTTING

FITS ANY IDEAL STENCIL MACHINE!

SEE THE YELLOW PAGES FOR NAME OF NEAREST DEALER OR WRITE DIRECT TO FACTORY



IDEAL
STENCIL MACHINE CO.
104 IOWA AVE., BELLEVILLE, ILL.

dependable



ANCHOR VERTICAL SPEED REDUCERS

Designed specifically for conveyor applications requiring a vertical output shaft (up or down), and extended bearing housing for high overhung load, ANCHOR Reducers feature readily accessible helical gears for ratio changes. Available from stock in six sizes, ratios up to 1800:1. Write for Bulletin 57-1.

ANCHOR STEEL & CONVEYOR CO.

6906 KINGSLEY AVE. DEARBORN, MICHIGAN



Circle 316 on Reader Service Card for more information
118

... USEFUL LITERATURE

Continued

and economy. Mr. Fischer also lists the limitations and presents the basic information needed for full understanding of both negative and positive systems. He discusses the five major factors in the design of a pneumatic handling system.

Circle 33 on Reader Service Card

For Safe Overhead Maintenance Work:

The Skyworker Plant King is the subject of a folder issued by Emhart Manufacturing Co., Skyworker Division. The Plant King is an industrial truck on which is mounted an adjustable boom (horizontally and vertically). The boom supports a crow's nest from which a worker can handle overhead maintenance jobs safely and quickly. The folder shows applications photos of the Plant King at work. Specifications are given for three models, based on boom lengths.

Circle 34 on Reader Service Card

Material Handling Tips Offered:

Towmotor Corp. has published "Pertinent Facts on Material Handling," a folder about ways to reduce man-hour

ARROW TACKERS

FASTER, EASIER, NEATER,
MORE EFFICIENT

No. HT-50

TAGS AND LABELS ARE ATTACHED IN A JIFFY.

BOTH MACHINES USE T-50 STAPLES:
T-50: up to $9/16$ " leg
HT-50: up to $1\frac{1}{2}$ " leg

HANDY FOR FASTENING PROTECTIVE LININGS AND PADDINGS IN CLOSE CORNERS.



SOLD AT HARDWARE, BUILDING, LUMBER DEALERS AND INDUSTRIAL TOOL SUPPLIERS.
WRITE FOR CATALOG

ARROW FASTENER CO., INC.
ONE JUNIUS STREET, BROOKLYN 12, N. Y.

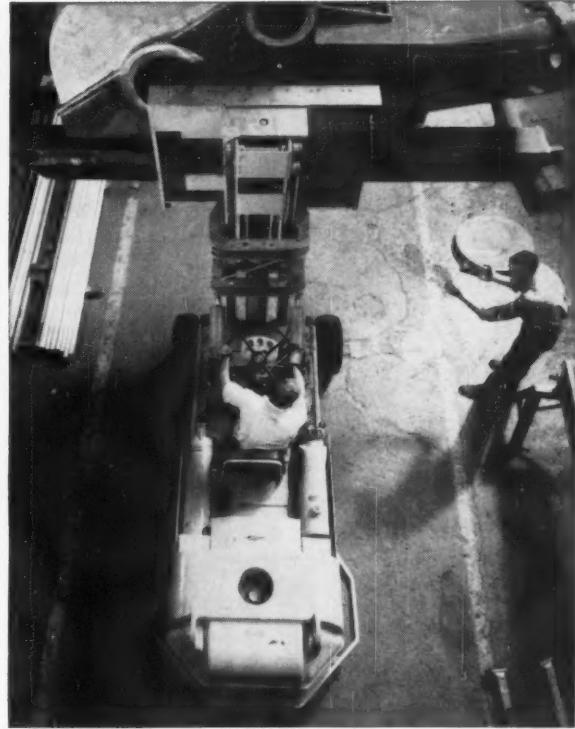
Circle 469 on Reader Service Card for more information
FLOW

B.F.Goodrich



Pneumatic?

B.F. Goodrich makes a complete range of sizes and variety of tread designs, including the new All-Purpose.



or Solid?

Which is right for you? Pressed-On Solid in regular or Deluxe Cushion, or Vulcanized-On Solid? What tread design? What compound?

Your B.F.Goodrich Analysis man gives you industrial tire advice . . . FREE!

Problem: There are many variables in industrial tire types, sizes, tread compounds and tread designs. Do you know which tire is right for your materials handling job?

Solution: Without cost or obligation your B.F.Goodrich Tire and Wheel Analysis man will study your equipment, loads, hauling surfaces and other special problems you have. He'll recommend the right tires for you to use—recommendations that are unbiased because B.F.Goodrich makes a *complete* line of industrial tires.

Result: You save as much as 50% on industrial tire costs, as much as 20% on maintenance costs! Mail the coupon today for your FREE B.F.Goodrich TW Analysis.

A special consulting service is available to manufacturers of materials handling equipment.

Specify B.F.Goodrich tires when ordering new equipment

B. F. Goodrich Tire Company
A Division of The B. F. Goodrich Company
Department TW-687, Akron 18, Ohio

I would like further information on your FREE
TW Analysis.

NAME _____

COMPANY _____

STREET _____

CITY _____ STATE _____ ZONE _____



Smileage!

B.F.Goodrich industrial tires

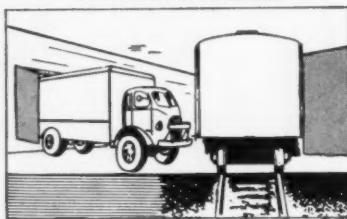
Circle No. 355 on Reader Service Card for more information

APRIL, 1958

119

does your loading dock LEAK MONEY?

IT DOES IF IT'S NOT
PROTECTED BY A
DAZZO LOADING
DOCK-DOOR SHELTER!



HERE'S WHY—

A Dazzo retractable loading dock-door shelter provides a safe, dry, draft-free passageway between the door of your building and the door of the freight car or truck. This saves you important money these four ways:

- 1 It prevents spoilage and damage.
- 2 It cuts heating cost and improves working conditions by sealing off drafts.
- 3 It lowers compensation insurance rates by preventing slipping and accidents.
- 4 It saves man hours by speeding loading regardless of weather and by cutting absenteeism.

CONSIDER THESE FACTS!

Dazzo shelter anchors permanently on the building wall around the door. It retracts or extends in 10 seconds. No tugging, no springs; it works by gravity. Eight different models, custom tailored to fit every need.

DAZZO PRODUCTS, INC.

152 Bleecker St., N.Y. 12, N.Y.

Telephone: Oregon 3-5298

DAZZO PRODUCTS, INC.	
152 Bleecker St., N.Y. 12, N.Y. FL4-58	
FREE CATALOG!	
Please send me, "Loading Dock Shelters Catalog".	
Name	
Company	
Address	
City, State	

Circle 335 on Reader Service Card
120

... USEFUL LITERATURE

Continued

costs and improve overall plant efficiency. The folder offers specific solutions to handling problems involving different types of loads in a variety of industries. The latest accessories available for speeding material handling operations are described.

Circle 35 on Reader Service Card

For Warehousing, Manufacturing, Freight Handling:

Data Sheet 50 has been published by SI Handling Systems, Division of Safety Industries, Inc. It provides illustrations of and specifications for trailers, dragline and manual carts, platform trucks, wheels, special trucks, skids and jacks, and drum trucks. It includes a page of custom trucks the company has designed for special handling applications.

Circle 36 on Reader Service Card

Need an Excavator?

Koehring Division has issued a bulletin on the crawler-mounted 805 Excavator. The 805 can be used as a 2 cu. yd. shovel, 2 to 3 cu. yd. dragline or clamshell, or a 52-ton lift crane on construction or handling jobs. There are photos of job applications and component assemblies.

Circle 37 on Reader Service Card

Describes Mechanized Tying:

B. H. Bunn Co. offers an eight-page bulletin on "The Bunn Package Tying Machine." It includes applications drawings and photos, plus a page of "What Users Report." There is a full page of photographs of the many models available.

Circle 38 on Reader Service Card

Truck Bulletin:

Elwell-Parker Electric Co. has issued a folder about the Model F-38T3 electric-powered fork truck. There are nearly a dozen illustrations of the 3,000-pound capacity truck, which was designed for fast operation, particularly where congested working areas or limited headroom are factors.

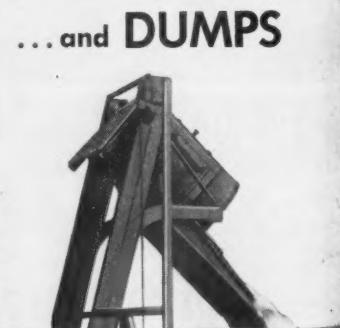
Circle 39 on Reader Service Card

Want To Know about Diesel Fuel?

Detroit Diesel Engine Division of General Motors has published a 16-page booklet "Fuel Oil and High-R.P.M. Diesel Engines." It tells Diesel engine users what to know and look for



THE CESCO DUMPER



Provides Easy, Safe Loading of BINS • BATCHERS • MIXERS

HANDLES DRUMS, BAGS, BULK, BARRELS and BOXES

Speed up materials handling with Cesco Skip-Hoist Dumpers. They lift, upend and dump up to 100 loads per hour, and have a capacity of up to 3000 lbs. Available in single or multi-purpose portable models in standard height from 4 to 15 feet. Stationary models to 20 feet.

Dumpers Engineered to Meet Special Applications. Write for complete catalog Dept. E

ESSEX CONVEYORS, INC.
Dept. E, 165 Franklin Avenue, Nutley 10, N. J.
COLSON EQUIPMENT & SUPPLY CO.
1317 Willow Street, Los Angeles 13, California

CESCO Skip-Hoist DUMPERS

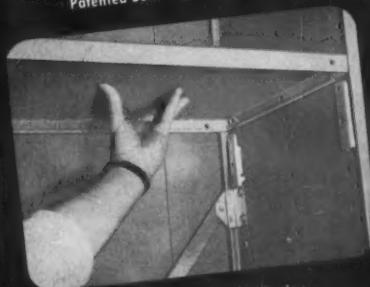
Circle 344 on Reader Service Card
FLOW

faster TO ERECT



Patented Boltless Shelf Bracket

faster TO INSTALL



Factory Built-in Shelf Reinforcing

faster TO RE-ARRANGE



faster TO PAY FOR ITSELF

DELUXE

STEEL SHELVING

faster BECAUSE...

... you realized that a shipment of knockdown shelving parts has no useful value. It must first be assembled into shelving racks for storage utility. The faster these racks are erected, the lower your installation cost. So, because Deluxe steel shelving is erected faster, your *installed cost* is the lowest.

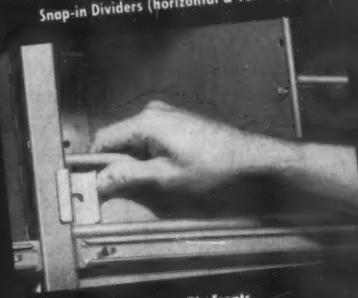
The film strip shows 6 engineering features of Deluxe steel shelving that promote faster erection. Take the patented Deluxe boltless shelf bracket . . . it replaces 90% of the time-consuming nuts and bolts and allows not only quick installation, but easy shelf adjustment.

THE PROOF: At the 1958 Maintenance Show in Chicago, two men erected a complete closed section of Deluxe Boltless Steel Shelving in less than 5 minutes.

Call your local Deluxe dealer or write for the new, complete Deluxe Shelving Catalog No. 30.



One-piece Bin-type Upright



Snap-in Dividers (horizontal & vertical)



Clip-on Bin Fronts

Bottom Shelf Support and Floor Angle

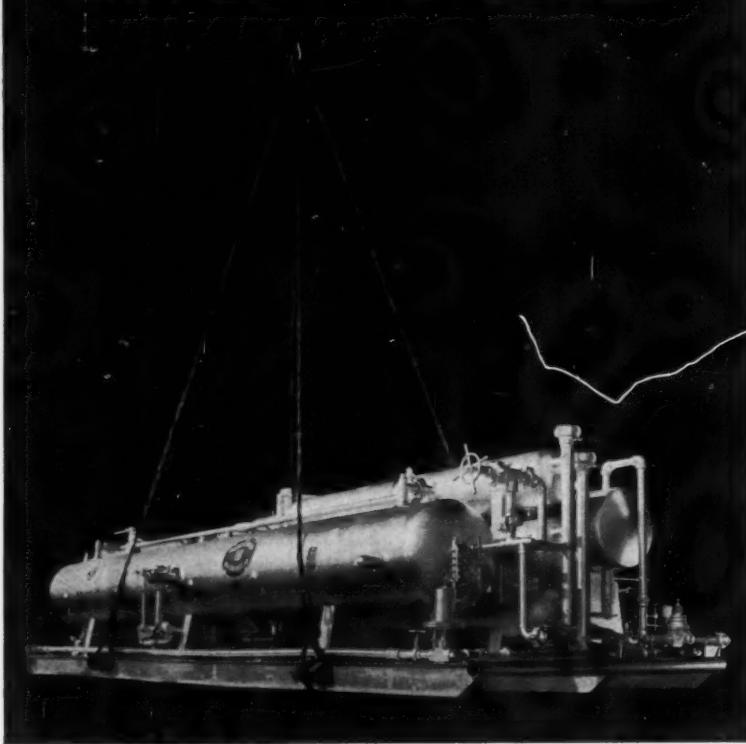
DELUXE

DELUXE METAL FURNITURE COMPANY • Warren 5, Pa.

A Division of the Royal Metal Manufacturing Company

Circle No. 456 on Reader Service Card for more information

sling safety is a matter of dollars and sense



When you're lifting heavy, expensive equipment, remember that the difference in cost between a safe sling and one of inferior quality is small in comparison to the costs resulting from sling failure.

Wickwire Slings have earned the confidence of safety-minded operators. For every Wickwire Sling is sub-

jected to rigid tests at every stage of production. A safety factor of 5 is used in the design of Wickwire Slings.

A new illustrated folder, showing the full line of Wickwire Slings, end attachments, assemblies and fittings is available from your Wickwire Rope Distributor or from our nearest sales office. Call or write for your copy today.

Certified Slings, proof-tested to loads equal to twice their rated capacity, are available at slightly higher cost.

WICKWIRE WIRE ROPE SLINGS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

THE COLORADO FUEL AND IRON CORPORATION—Albuquerque • Amarillo • Billings • Boise • Butte • Denver • El Paso • Farmington (N.M.) • Fort Worth • Houston • Kansas City • Lincoln (Neb.) • Odessa (Tex.) • Oklahoma City • Phoenix • Pueblo • Salt Lake City • Tulsa • Wichita • PACIFIC COAST DIVISION—Los Angeles • Oakland • Portland • San Francisco • San Leandro • Seattle • Spokane • WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga • Chicago • Detroit • Emington (Pa.) • New Orleans • New York • Philadelphia

Circle No. 329 on Reader Service Card for more information

... USEFUL LITERATURE

Continued

when selecting engine fuel. The booklet applies to all makes of Diesels which operate between 1200 and 3000 rpm and are used in such applications as buses, trucks, earthmoving equipment, pumps, oil rigs, air compressors, boats, generator sets, etc.

Circle 40 on Reader Service Card

Self-Adjusting Dock Unit Described:

T&S Equipment Co. has issued a bulletin (No. B-968-12-57) about its self-adjusting Dockleveler. This is a mechanically-operated unit that automatically adjusts to truck-bed level when a truck backs into its twin operating arms. The brochure illustrates with photographs and drawings the three Dockleveler models: recessed, package unit, and semi-package unit. A specifications table gives size, capacity, travel and features of each model.

Circle 41 on Reader Service Card

Cost Guide Offered:

The Power Crane and Shovel Association has developed an operating cost guide for the purpose of estimating the cost of ownership and operation of power shovels, draglines, clamshells and cranes. This information is of interest to students as well as contracting firms, construction supervisors and others connected with the construction industry. Included is information on the proper sizing of excavators and hauling equipment; also material covering front-end attachments and their operation.

Circle 42 on Reader Service Card

Truck Crane Catalog:

The Construction Machinery Division of Clark Equipment Co. offers a 24-page catalog about the 25-ton "Michigan" Model T-24 truck crane. The full-color catalog highlights the design and operating features of the truck, the upper mechanism and the front end. It mentions the "Michigan" air controls and points out how power up and power down on both the load line and boom are standard.

Circle 43 on Reader Service Card

Pocket Product Reference:

A pocket-size brochure from Allis-Chalmers (Construction Machinery Division) provides a handy reference to the company's product lines. Photographs and specifications are compactly arranged in the booklet. Crawler tractors, bulldozers, tractor shovels, and other earth-moving equipment are the products featured.

Circle 44 on Reader Service Card

Whatever the Load . . .

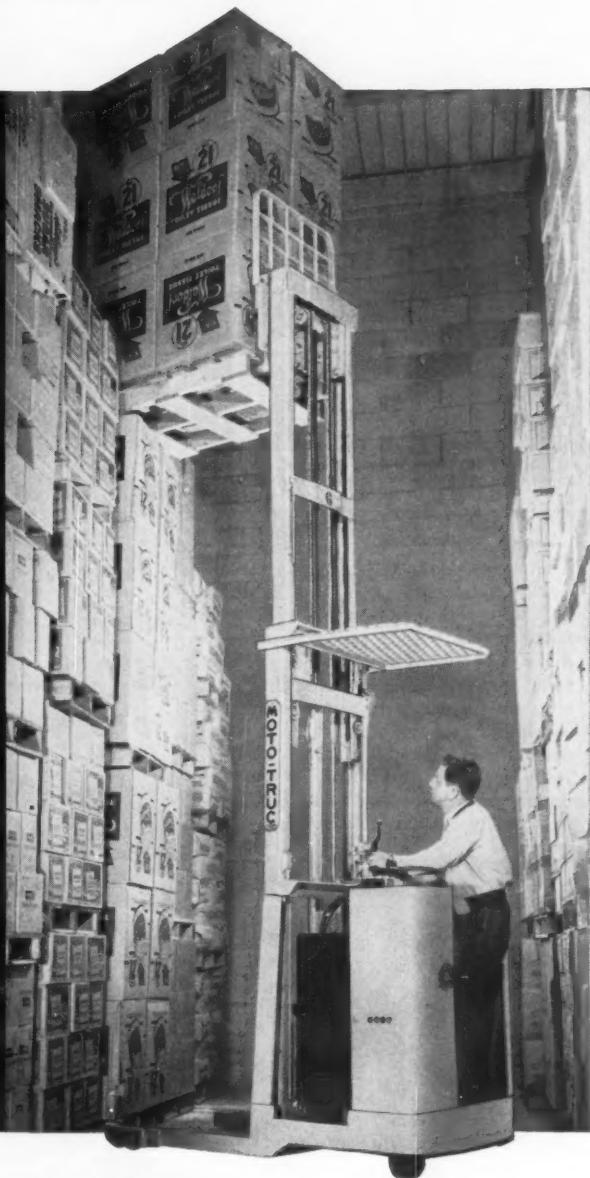
MOTO-TRUC

Stacks MORE in Less Space

Sturdy Straddle Trucks For Ceiling-High Stacking in 6-Foot Aisles

■ Rugged "Ride-A-Man" straddle trucks, built by MOTO-TRUC permit fast stacking of 48"-long loads from 6-foot aisles. Equipped with famous Magic Circle Steering, turns of more than 90° are possible without tire scrubbing. At the same time, this unique steering arrangement provides solid, four-wheel support that assures outstanding stacking stability even when loads are fully elevated. Although built small for maximum maneuverability, MOTO-TRUCs can take it. One look will prove that their *rugged simplicity* will keep them on the job longer at lower cost! Investigate the space-saving features of MOTO-TRUC straddle trucks today!

A Complete Line—"Ride-A-Man" straddle trucks are built in capacities to 4000 lbs. with standard lifts to 130", higher for special applications. MOTO-TRUC also builds a complete line of "walkie" type straddle trucks.



Send For These Free Catalogs:
Catalog 56-R covers Ride-A-Man Models;
Catalog 56-W on "Walkie" Models.

Designers and Manufacturers
of Walkie and
Small Rider Type Trucks

The MOTO-TRUC Co.



1955 EAST 59th ST. • CLEVELAND 3, OHIO

Circle No. 394 on Reader Service Card for more information

... USEFUL LITERATURE

Continued

Engineered Chain Information:

Engineered conveyor chain is the subject of a bulletin from the Alvey-Ferguson Co. The bulletin contains dimensional prints of various size engineered special conveyor chain, both with and without attachments. There are installation photographs showing its use in slat conveyors, pusher bar boosters and as side chains for open types of belting in metal cleaning and processing machines.

Circle 45 on Reader Service Card

About Steel Pallets:

A steel pallet manufactured by Fleetwood-Airflow, Inc., is the subject of an information sheet. Strength, lightness, large load-bearing capacity and long life are some of the characteristics described. A standard 30 x 48 pallet weighs 56 pounds, has a capacity of 10,000 pounds.

Circle 46 on Reader Service Card

Clamshell Specifications Given:

Schield Bantam Co., has compiled a specification bulletin (No. A-266) on the company's line of clamshell buckets. Included are complete specifications

and job action photos of both the general purpose $\frac{1}{2}$ yd. and special $\frac{1}{2}$ yd. rehandling bucket. The $\frac{1}{2}$ yd. general purpose digging bucket works best on applications such as bell hoe excavation, ditch clean-out, shored excavations, or other deep or restricted digging operations. The $\frac{1}{2}$ yd. rehandling bucket offers best performance on rehandling stockpiled material.

Circle 47 on Reader Service Card

Little Belt Book:

A 16-page, pocket-size brochure has the title "V-belts, the Testing, Inspection and Control of their Quality." Issued by the Goodyear Tire and Rubber Co., the booklet describes in words and pictures how raw material and finished belts are tested and inspected. One section explains quality control procedures, another is concerned with experimental production.

Circle 48 on Reader Service Card

Speeds Two-Wheel Handling:

Re-Bo Manufacturing Co. has issued an information sheet on a removal body for two-wheel trucks. Made of steel angle surfaced with oak lumber, this unit fits all two-wheel hand trucks. It rests on rails elevated $1\frac{1}{2}$ inches from the floor to allow clearance for truck nose. The information sheet shows applications drawings.

Circle 49 on Reader Service Card

Lists Hand Trucks:

"Magnesium Pusharound All-Purpose Hand Trucks" is the title of a folder issued by Brooks & Perkins, Inc. In it is found an expanded line of magnesium two-wheeled hand trucks and optional accessories. There are eight basic models with 26 items of optional equipment, resulting in hundreds of models available for customer requirements.

Circle 50 on Reader Service Card

Vibrating Packer Uses Listed:

Bulletin 63 from Ajax Flexible Coupling Co. Inc. says that applications are unlimited for the vibrating packer. This self-contained unit can be used for compacting and settling bulk materials in cartons, boxes, bags, drums, kegs, etc. The brochure tells about applications in the chemical industry, in small parts manufacturing and with bulk materials.

Circle 51 on Reader Service Card

Adjustable Shelving Presented:

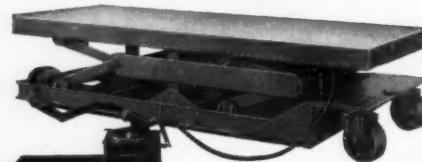
Six basic types of steel shelving are described in Bulletin SE-5 from Penco Metal Products Division of Alan Wood Steel Co. Photographs show construc-



There is no need to pay a premium for high quality production equipment. Our new manufacturing techniques have brought about revised pricing policies which now make it possible for you to continue to stress high production standards . . . yet reduce equipment costs at the same time. We invite you to compare the quality, performance, and above all, the price of Rack Hydraulic Equipment. Write immediately for more information about our standard or custom-built models.



HYDRAULIC UTILITY TABLES
1, 2, and 3 ton capacities
Priced from \$324.50



**Turnabout
HYDRAULIC LIFT TRUCK**
With Interchangeable Forks
2500 lb. capacity

\$395
complete



Priced from \$390. HD-22

SHEET FEEDING TABLES

1, 2, 3, 5, and 10 Ton Capacities
Hydraulic and Electric Hydraulic operation

**RACK HYDRAULIC EQUIPMENT
CORPORATION**

CONNELLSVILLE, PENNSYLVANIA

Agents in Principal Cities, United States, Canada, Europe

Circle No. 404 on Reader Service Card for more information



How Would You Like to Get 25% or Even 56% More Work out of Your Present Electric Trucks?



Here's the secret. Unique advanced tubular construction. Every positive plate pack's more power. So you get greater battery efficiency—more power in the same size to fit your present trucks.

With the new Exide-Ironclad Batteries now available, your present trucks can work 25% to 56% longer than with batteries you have bought in the past. Now electric industrial trucks can do more work per shift, work longer, cost less than ever to own and operate. Only Exide batteries offer the twin advantages of more power and longer life. Find

out just how much you can gain. Call your nearby Exide office. Or write Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 2, Pa.

Exide®

Circle No. 340 on Reader Service Card for more information

... USEFUL LITERATURE

Continued

tion features; the different shelving arrangements possible with standard parts and accessories; and typical shelving installations in schools, offices, stockrooms, warehouses and factories. A line of steel lockers and storage cabinets is also covered in the bulletin.

Circle 52 on Reader Service Card

Need Loading Help?

Bloomer Industries, Inc., has issued a bulletin about its Holleen adjustable dock plate. This is a manual, mechanized

cal unit that is installed flush with dock surfaces, is adjustable above and below dock level. Dock positions are illustrated by photos and drawings. Dimensions, capacity, speed of travel, etc. are given in a specifications table.

Circle 53 on Reader Service Card

Conveyor Data:

Conveyor Systems Inc. has prepared a brochure covering overhead and in-floor conveyors. Applications are shown in shipping docks, railroad and truck terminals, warehouses, order-picking, manufacturing areas and assembly operations. Installation photographs of equipment are provided.

Circle 54 on Reader Service Card

NO DUST BAG TO EMPTY



Heart of the Filter-Vac Dust Control system. 300% greater filtering area.

... Obsoleting all other mechanical sweepers. *Filter-Vac Dust Control*, an exclusive Wayne feature, deposits dust directly into the dirt hopper automatically. With no old-fashioned dust bag to empty, the Wayne sweeps faster... cleaner... inside or out, at less cost. So before you buy any sweeper, get the facts about the all new Wayne years-ahead exclusive features.

Largest Effective Hopper Capacity • Welded Steel Body • Quick Broom Change • Greater Horsepower • Automotive Foot Controls • Wrap-Around Bumpers • Vacuum Cleaning Attachment • A size and model for every need—L.P., Gas, Electric.

WAYNE

World's largest producer
of power sweepers
for cities and industry.

Main Plant: Pomona, Calif.
Branches: Newark, N.J., Chicago, Ill.

Circle No. 431 on Reader Service Card for more information

Wayne Manufacturing Co., 1318 E. Lexington St.
Pomona, Calif.

Show me a Wayne in action.
Send me descriptive literature.

Name _____ Title _____

Firm _____

Address _____

City _____ Zone _____ State _____

Diesel Tractor Shown:

Design advances in the HD-21 turbocharged diesel-powered tractor are described in a 16-page catalog (MS-1243). Available from the Construction Machinery Division, Allis-Chalmers Manufacturing Co., the booklet tells the construction and engineering story of the tractor with photos and drawings. Components are illustrated and tractor specifications given.

Circle 55 on Reader Service Card

Safety Featured in Ladder Brochure:

Safety is the theme of a 20-page brochure issued by Ballymore Co. This publication features "pyramid design" step ladders for business and industrial use. There are 35 new models for working heights up to 15 feet. The bulletin also illustrates and describes other ladders, hydraulic lifts and fixed or adjustable level work platforms.

Circle 56 on Reader Service Card

Feeds, Orients, Counts:

The Hoppermatic is the subject of Brochure B-31 from U. S. Engineering Co. This unit will feed, orient, count up to 200,000 items an hour, according to the bulletin. A table of typical speeds for standard products is included, and examples of applications to production and packaging are described.

Circle 57 on Reader Service Card

Excavating Machine in Action:

"The No. 933 Traxcavator" is the subject of a 12-minute sound and color motion picture offered by Caterpillar Tractor Co. The film shows the machine in action on excavating and handling work. It also demonstrates how the bulldozer blade, light material handling bucket and other attachments tailor the No. 933 to special applications.

Circle 58 on Reader Service Card

Talks About Handling Education:

The Material Handling Institute, Inc., has issued an information sheet entitled "This Is the College-Industry Committee on Material Handling Education." This sheet explains the functions and organizational structure of the Committee, which helps colleges and universities conduct material handling courses. The Committee also serves as a liaison between industry and educational institutions.

Circle 59 on Reader Service Card

Brochure About Scales:

A brochure about the latest line of dormant platform scales is available from Detecto Scales, Inc. Standard dor-



**Reduce "Manufacturing Overhead"
... by Going Overhead
with AMERICAN MONORAIL**

Reduce indirect mfg. costs
Eliminate re-handling
Damage to floors eliminated
Utilize larger production units
Control work flow
Rxpedite production

Minimize employee fatigue
Full use of plant cubage
Gain full use of floor space

Cut "down time"
Overcome floor hindrance
Secure flexibility in material movement
Transfer loads without re-handling
Safety for the employee

An American MonoRail system will bring a quick reduction in manufacturing costs because it can do all the things listed at the left.

Overhead handling puts your ceiling space to work—leaves your floor free of traffic—helps you produce more efficiently in less space.

American MonoRail engineering consultants are available without obligation for the solution of your handling problems.

Write for Bulletin C-1 illustrating hundreds of successful MonoRail installations.

ENGINEERED MATERIALS HANDLING

13129 ATHENS AVENUE
CLEVELAND 7, OHIO



AMERICAN
MONORAIL

MEMBER OF MATERIAL HANDLING INSTITUTE AND MONORAIL MANUFACTURERS ASSOCIATION
Circle No. 307 on Reader Service Card for more information

... USEFUL LITERATURE

Continued

ment scales in a wide variety of platform sizes and capacities, both with Type A column attachments and unit weight cabinet attachment are included. These scales feature all-steel construction and the Detecto outboard bearings system.

Circle 60 on Reader Service Card

Mobile Electrification:

Enclosed conductor systems for cranes, monorails and moving machinery

are explained in a six-page brochure from Insul-8-Corp. Photographs and text demonstrate how these systems meet all safety and installation requirements of mobile electrification, with neither special parts nor special engineering required. Pamphlet No. 8-57 is the number.

Circle 61 on Reader Service Card

Forest Products Featured:

The Fall issue of *Con/ab*, published by Acme Steel Co., has a feature story about steel strapping being used to cut handling costs in the forest products industry. This story tells how the logger, the plywood manufacturer and the home builder increase load capac-

ity and reduce load time by use of steel strapping. The magazine contains other articles about solutions to handling, shipping and storing problems.

Circle 62 on Reader Service Card

Sweeper Information:

A bulletin from the G. H. Tennant Co. describes the Model 100 vacuumized sweeper. It features a vacuum system with huge filter area plus 2200 cfm air flow. Maneuverability (9'2" turning radius) and dust elimination are some of the advantages described in the bulletin.

Circle 63 on Reader Service Card

Explains Wheel Features:

A single-sheet bulletin on Durastan formula caster wheels is offered by the Rapids-Standard Co., Inc. The bulletin describes the new black wheels as non-sparking, non-inflammable and resistant to abrasion and moisture. Photographs, sketches and drawings illustrate the wheels, their construction and use.

Circle 64 on Reader Service Card

For Bulk Handling:

A 20-page booklet from Tote System, Inc., describes how this system works and what equipment is used. There is an exploded view of the Tote Bin and a diagram of the tilting device. Some applications are shown and a list of users is provided.

Circle 65 on Reader Service Card

Weigh As You Lift:

"Make Every Lift Truck a Scale" says Bulletin M-8 issued by Martin-Decker Corp. It goes on to describe nine models of lift truck scales produced by the company. Model numbers, capacities and ordering information are provided.

Circle 66 on Reader Service Card

Data for Engineers and Designers:

Bulletin No. 3300 contains 40 pages of hydraulic tables and other engineering data useful to hydraulic engineers and designers. Published by Hamilton Division, Baldwin-Lima-Hamilton Corp., the booklet furnishes conversion tables, decimal equivalents, hydraulic ram capacities, wire and sheet metal gauges, steel pipe tables, bolt tables, specific gravities and material strengths.

Circle 67 on Reader Service Card

Maneuverability Stressed:

Lewis-Shepard Products, Inc., offers Circular 37 about the Model "H" electric fork truck. This vehicle has capacities from 1000 to 2500 pounds; it will pass under six-foot doorways with

"THE RAILWAY DOCK PLATE REALLY SPEEDS THINGS UP!"



A rugged steel dock plate, the Rollway, will last lots longer than lighter built plates. Yet one man can easily and quickly wheel it in and out of position! The wheels and handles fold completely out of the way when the Rollway is in use. Think of the time and money you will save in your materials handling operation! **ORDER DIRECT FROM FACTORY** . . . write now for illustrated literature and prices on the many different sizes and models of the Rollway Portable Steel Dock Plate.

SOME TERRITORIES OPEN FOR REPRESENTATIVES

WOODFORD MANUFACTURING COMPANY

1629 DELAWARE • DES MOINES, IOWA

Circle No. 437 on Reader Service Card for more information



maintenance-free

RCD brake cuts hoist downtime 50%



Brake repairs eat up more than half of the money you spend on hoist maintenance. Impartial surveys prove it!

Now you can put a stop to this drain on your budget and the often costlier production delays involved. Replace your present hoist with a P&H Hevi-Lift® — the only hoist that has the

mill-type, maintenance-free RCD brake.

The RCD has no clapper, no linkage, no laminations — total stroke is only 1/32 of an inch. Braking is fast, positive. There's no violent hammer-action to cause wear on parts.

Bulletin H-5 has all the facts on the RCD brake and P&H Hevi-Lift hoists. Get it from your P&H Hoist distributor. Or write Dept. 203F, Harnischfeger Corp., Milwaukee 46, Wisconsin.

HARNISCHFEGER



... quality and service for 74 years

Circle No. 357 on Reader Service Card for more information

... USEFUL LITERATURE

Continued

a 68-inch collapsed height. Maneuverability of the truck is stressed in the bulletin, which points out such features as rear-wheel drive and the mast recessed between the load wheels.

Circle 68 on Reader Service Card

For LP-G Trouble-Shooting:

You can investigate poor operation of any LP-Gas engine with the help of a booklet titled *Service Manual—All Makes, LP-Gas Carburetion*. Published by Beam Products Mfg. Co., the

booklet contains 20 sections about LP-G troubles. There is also a page on terminology and a list of tools required for maintenance and repair.

Circle 69 on Reader Service Card

Industrial Radio Bulletin:

Bulletin No. E207 is about transistorized 2-way radio. It is issued by Motorola Communications and Electronics, Inc., a subsidiary of Motorola, Inc. Both the Series "D" (self-contained speaker model) and Series "T" (separate speaker model) are described. A technical information section gives current drains, RF power output, audio power output, and dimensions.

Circle 70 on Reader Service Card

Manufactured by Wayne Mfg. Co., Pomona, Calif.



G. H. Tennant Co., Minneapolis, Minn., is the builder.



WITH

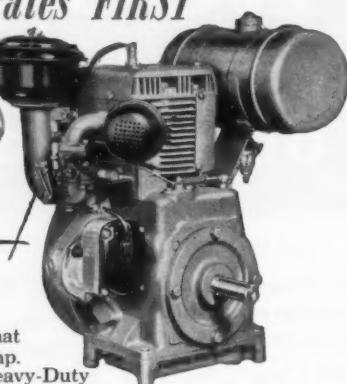
Professionals

WISCONSIN-POWERED equipment

always rates FIRST

Built by Modern Power Sweeper Co., Azusa, Calif.

full-time
POWER
at its best



• Wherever materials are moved quickly and efficiently, you'll find that men in the know . . . rely on 3 to 56 hp. equipment powered by Wisconsin Heavy-Duty Air-Cooled Engines. These men know that the percentage of profit often rides on the rugged dependability of the equipment working on the job. And they know, from actual experience, that Wisconsin Engines deliver this kind of dependability . . . full time power . . . day after day, month after month.

Wisconsin Engines are built by engine specialists. All skills and know-how are funneled in one direction, producing only one product . . . air-cooled engines, 3 to 56 hp.

"Down time" is cut to an absolute minimum when you specify equipment powered by Wisconsin Heavy-Duty Air-Cooled Engines. Local availability of parts and service through 2,000 service stations . . . several near you. Write for bulletin S-223, describing all models.



WISCONSIN MOTOR Corporation

World's largest builders of Heavy-Duty Air-Cooled Engines
Milwaukee 46, Wisconsin, U. S. A.
2,000 SERVICE STATIONS . . . SEVERAL NEAR YOU

Circle No. 436 on Reader Service Card for more information

British Productivity Chronicled:

Target is a monthly tabloid printed in London that features articles about productivity in industry. The January issue features "Higher Output with Less Handling"—an article on material handling as applied in a brewery.

Circle 71 on Reader Service Card

Tells About Crane:

A bulletin from The Shovel Co. describes its new 35-ton Lorain Motor-Crane, Model MC-530. The booklet includes close-up photographs of the machine's component parts. There is a page of information on the crane boom and a list of crane equipment and accessories.

Circle 72 on Reader Service Card

Roller Chain Information:

Prices are part of the information supplied by Diamond Chain Co., Inc. in new bulletin, No. 507. Roller chains (standard and double pitch) with standard straight or bent attachment links are given detailed descriptions. Each type is illustrated for better identification.

Circle 73 on Reader Service Card

For Feeding Vertical Straps:

A 4-page folder (SPD-175) treats the Model PSF-1 power strap feeder. In this bulletin from Signode Steel Strapping Co., schematic drawings show how vertical straps are fed around large packages or skid loads. The feeder can be used with seal feed tools (preferably power) to increase strapping speeds.

Circle 74 on Reader Service Card

Special Purpose Hand Trucks:

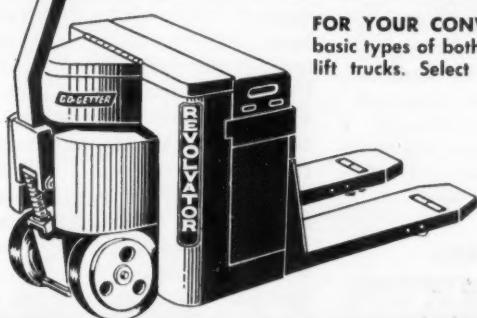
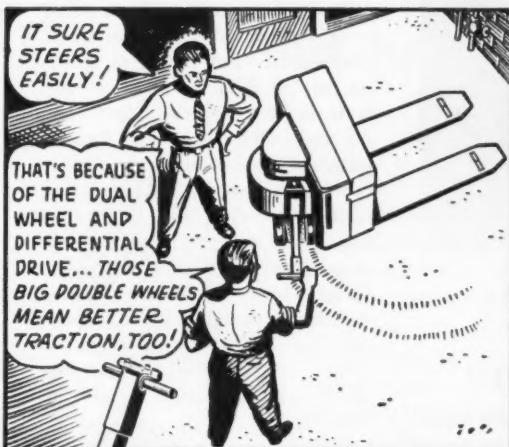
General Catalog No. 104 comes from Rol-Away Truck Manufacturing Co., Inc., and displays 29 models of specialized trucks. Photos show direct applications of the equipment. Descriptive emphasis is placed on light weight, strength, mobility and (in the case of ladder-equipped units) occupational safety.

Circle 75 on Reader Service Card



REVOLVATOR **GO-GETTER**[®]

**The MOST COPIED
LIFT TRUCK
On The Market**



FOR YOUR CONVENIENCE... Illustrated in this Index are basic types of both Red Giant hand lift and Go-Getter electric lift trucks. Select the type best suited to your operation.

REVOLVATOR CO.
8739 TONNELE AVE., NORTH BERGEN, N.J.

Circle No. 408 on Reader Service Card for more information

APRIL, 1958

Gentlemen:

Please send me without obligation, your **Truck Index** of over 600 combinations of sizes and capacities.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ **ZONE** _____

STATE _____

DEPT. 19

NON-RETURNABLE CONTAINERS

(continued from page 94)

There are a number of reasons why container capacity should not go over 2000 pounds. (1) Heavier loads, when stacked, might buckle the container. Additional support built into the container would prevent this, but it would also add to the cost. (2) 2000-pound loads will fit most customers' fork trucks. (3) Containers should be

of a size to make full use of rail cars and truck trailers. Since most bulk materials weigh from 30 to 60 pounds per cubic foot, loads over 2000 pounds might be hard to load without wasting space.

Sticking within the 2000 pound limit, there is still a wide choice of containers. They fall into three general types: solid fibreboard drums, corrugated fibreboard boxes, and wirebound boxes.

Solid fibreboard drums. These are usually 21 to 23 inches in diameter, with 40 to 60 gallon

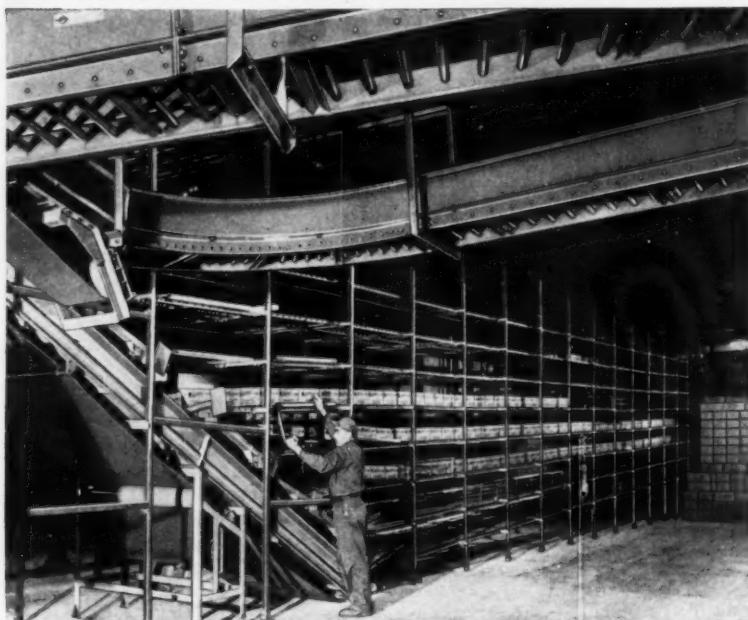
capacities. They are available with a number of vapor barriers. They are shipped set up. Lids are usually metal, secured by clamping rings. Depending on sizes and quantity, these containers cost between \$2.50 and \$3.25 each.

Corrugated fibreboard boxes. These are rectangular, square, octagonal or polygonal in shape. Their capacities range from 25 to 40 cu. ft. They are shipped folded for easy handling and storage. Depending on size and quantity, they cost about \$4.50 to \$9.50 each.

Wirebound boxes. Wire or strap reinforced boxes are good non-returnable containers for heavy loads. They are usually square or rectangular, with capacities from 30 to 50 cubic feet. Each container has a pallet built into its base. They are shipped flat for easy handling and storage. Wirebound containers combine excellent strength with low tare weight. Depending on size and quantity, they cost about \$7.00 to \$10.00 each (pallet included).

In du Pont we have been using a square container, designed and developed by our engineers, which we call the Pillar-Pac. Its capacity is from 36 to 42 cubic feet. The top and bottom consist of flanged caps, strapped in place. A cylinder is inserted into the body, forming a sleeve or pillar. This allows tiering, and reduces the pressure transmitted to the outer body. The bottom forms its own pallet for standard fork truck handling. Depending on size and quantity, these containers cost between \$5.50 and \$6.75 each (pallet included).

To compare costs of the three types of containers, we at du Pont have calculated container costs per ton of material shipped. Using fibreboard drums (8 cu. ft.), each with 250 pounds lading weight, it costs \$640 to ship 25 tons of material in a standard 40'6" rail car. That's about \$25 a ton. The same material costs \$16 a ton shipped in corrugated fibreboard boxes, with 1000 pounds lading each. It goes down to about \$11 a ton in wirebound boxes, each with 1500 pound lading. The same lading with Pillar-Pacs goes down to \$8 a ton.



NOW! Warehousing, Too, Becomes Automatic with an A-F ENGINEERED CONVEYING SYSTEM

If you're one of those efficient production men who have gone about as far as you can in cutting manufacturing costs, it will pay you to look at your warehouse!

Chances are, it offers possibilities for big savings by replacing old-fashioned, intermittent handling methods with an efficient, continuous-flow A-F Engineered Conveying System.

A-F can provide installations that take

cartons or palletized loads from several different production and packaging areas . . . electronically identify them and route them to the proper storage conveyor lines . . . select and accumulate all items of an order for shipment, and dispatch them to the designated loading dock . . . all automatically!

Now — A-F can engineer the proper type of conveying system for your warehouse as well as your plant.

Write—without obligation—for literature—today!



YOU CAN SEE
THE SUPERIORITY OF
A-F CONVEYOR ENGINEERING

A-F ENGINEERED CONVEYING SYSTEMS

Also Pre-Engineered Conveyors—
Wheel, Trolley, Roller, Belt
Metal Cleaning and Processing Machines

THE ALVEY-FERGUSON CO., 434 Disney St., CINCINNATI 9, OHIO and Azusa, California

Circle No. 305 on Reader Service Card for more information



... and here's why we switched to
MONARCH SOLIDS



TO CUT REPLACEMENT COSTS, plant operating executives must analyze each maintenance expense . . . and then find a practical means of reducing it! This is especially true when basic materials handling items . . . such as press-on tires . . . require frequent replacement.

Today, in companies of all types, the men responsible for lift truck operations are effecting important savings by specifying MONARCH industrial solid tires. These tough, dependable, high-performance tires consistently give more ton-miles of service for a competitive initial cost.

MONARCH solids wear better and last longer because they are made by industrial tire specialists from Special Compound T-48C, the toughest natural rubber stock developed to date.

See for yourself how quickly tire replacement costs can be reduced . . . switch to **MONARCH** industrial solids.



7815-MR

**THE
MONARCH
RUBBER COMPANY**

210 LINCOLN PARK • HARTVILLE, OHIO
 • 7-255 General Motors Bldg., Detroit, Mich.
 • 2352 N. California Ave., Chicago, Ill.
 • 1045 No. 10th St., San Jose, Calif.

Ask your nearest **MONARCH** dealer, or write direct, for new 16-page **CATALOG MR-457**. It's full of facts, specifications and suggestions to help you save more on solid tires.

Circle No. 392 on Reader Service Card for more information

RETURNABLE CONTAINERS . . .

(Continued from page 92)

and freight? Is it enough to offset the initial expense and maintenance costs?

Container design and shipping method. Can you design the container to hold other products as well? Does it allow for product changes? Will it fit into your plant's handling system? Your freight line's?

Tariff. Are there any specially established tariffs for your particular product or movement?

Freight classification. Is what you plan to do acceptable under the Uniform Freight or National Motor Freight classification?

Shipping media. Can vehicles be assigned and scheduled so that movement flows equally both ways? Containers must come in as fast as they go out, or you will eventually run out of them.

Responsibilities. Are responsibilities firm? Does everyone know and perform his exact job? Be sure you have settled matters of ownership, control, design, changes, maintenance and replacement.

Inventories. Are you sure you'll have enough containers when you need them? Your supply may fluctuate wildly. Many shippers set up a stand-by method, for short-term emergencies, for example, a small supply of non-returnable containers.

Here are a number of container definitions that you should know. Understanding these classifications may help you in picking a container:

Crate—A framework with other than solid or closely fitted sides and ends. May or may not have internal lining. May have under-clearance for handling by fork truck.

Pallet—A single or double-faced supporting base. May have provisions for sides or ends, but it is not fitted with them. Made of wood, metal or fibreboard.

Bin—A box with at least three sides over 12 inches high. May have under-clearance for handling by fork truck. May be stationary or portable.

Tray—A shallow box without a top, and with sides no more than 12 inches high. May have under-clearance for handling by fork truck.

Rack—A framework with a floor and supporting base, with fixed or removable sides and/or ends. Either the sides or ends may be enclosed, but not both. May or may not have under-clearance for handling by fork truck. May be stationary or portable.

There is a growing place in industry for returnable containers. There are a lot of problems to overcome, and many products may never be able to benefit from this type of shipping. But if you plan carefully, and analyze all costs, you may find that returnable containers can cut a big slice off your shipping bills.

THE PORTABLE PALLET STACKING FRAME



ODD-SHAPED ITEMS

ARE A SNAP TO STACK ON TIER-RACK

Snaps smoothly onto your regular pallets . . . no nuts, no screws, no bolts.

You stock irregular or crushable goods ceiling-high . . . yet quickly accessible for order selection.

See how Tier-Rack stacks up as your storage-problem solver. Write today.



TIER-RACK
PALLET STACKING FRAMES
TIER-RACK CORPORATION
122 N. 7th St. • St. Louis 1, Mo.

Circle No. 470 on Reader Service Card for more information

SAFETY IN A SMALL PLANT . . .

(Continued from page 84)

Hazards Can Be Avoided

Two handling hazards are inherent in the work. One is in the handling of hot asphalt. The other is a nip hazard—fingers can be caught in the rolls and drives used to move the shingle material through the process.

Hot asphalt (400 to 450°F) comes to the plant in tank cars or trucks. It is pumped into one of seven storage containers. When the asphalt is to be used it's pumped from storage to a manifold (which sprays it on felt moving through the machine) or to a tank (into which the felt is dipped).

Burns have been eliminated by training the workers and the mechanical handling of asphalt. There's been only one serious burn in the last 5 years.

Nip hazards (between rolls and between sprockets and drive chains) have been eliminated by installing guards wherever possible. Many of these hazards were pointed out by the safety committee.

All fork trucks have overhead guards. They are a must because high stacking is required to make up for limited storage space.

The extensive use of handling equipment prevents accidents. For example, quartz granules used in making shingles arrive in hopper cars. The granules are emptied into an underground hopper which directs them onto a conveyor which takes them to a bucket elevator. It lifts the granules to one of 13 silos. (There is a silo for each color.)

Shades are mixed by directing granules from the bottom of the silos onto an underground conveyor belt. The mixture is moved from this conveyor to storage tanks high above the shingle-making machine by conveyor and bucket elevator system.

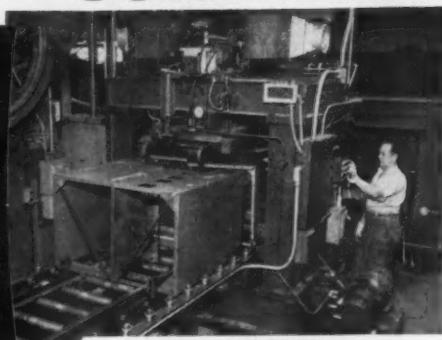
Gravity tubes direct the granules from the tank onto asphalt-soaked felt to form the desired color pattern on the shingles.

The mixing system uses the turning of a valve to replace fatigue-causing manual labor.

OLSON ROLLER CONVEYORS

Engineered to do much more than move material!

These four Olson Roller Conveyor installations are moving material quickly and economically. That is to be expected. Equally important are the *extra advantages* obtained by the intelligent integration of these Olson engineered systems into the individual plant's production or shipping methods. Olson engineers have a reputation for contributing this *plus value* to material handling installations. Why not see what they can do for you?



AUTOMATIC OPERATION . . .
Moving a stove body through automatic spot welder. Operator never touches assembly.



GREATER MACHINE EFFICIENCY
Moving stampings from press to press for progressive stamping and forming. Operators do not have to move from work station.



IMPROVED SHIPPING AND STORAGE
"Live" storage of packed units reduces handling, speeds shipping, makes better use of available space.



INCREASE PRODUCTION Tiered conveyor sections simplify progressive assembly inspection and test of small parts . . . help increase production per worker-hour.

ONE PIECE OR A COMPLETE SYSTEM

Whether you require a single section or a completely engineered powered or gravity conveyor system, you can depend on Olson—the conveyor specialists — to recommend and supply the exact unit or equipment to solve your problem. Olson Roller Conveyors are made in Light, Medium and Heavy Duty types. Many units carried in stock for immediate delivery. Prompt attention to your inquiries.

Write for illustrated catalogs on Olson Conveyor Units and Systems.

OLSON CONVEYORS

SERVING AMERICAN INDUSTRY SINCE 1900

Samuel Olson Mfg. Co., Inc.
2429 Bloomingdale Ave.
Chicago 47, Illinois
Offices in Principal Cities

Circle No. 400 on Reader Service Card for more information



"PICK UP and GO" CRANES

AT
ORR & SEMBOWER, INC.
Reading, Pa.

Material handling is a "large" problem at the Orr & Sembower, Inc. plant in Reading, Pa. Boilers for steam generating plants aren't exactly lightweight and it takes sturdy, yet easily maneuverable, fast equipment to handle them around plant and yard. Plates and tubing must be handled into storage, must be transferred to fabricating plants; finished components must be stored, then rehandled for shipping. Two sizes of Lorain Self-Propelled Cranes solved these "oversized" material handling problems for Orr & Sembower.

Lorain builds 11 sizes of "Lorains-on-rubber" — from the 7-ton SP-107 to the giant 75-ton TSP-875 — to match your requirements (8 to 60-ton crawlers are also available).

One of the newest Lorain Crane features is the square-tubular-chord boom. This stronger, yet lighter, weight-saving design permits greater lifting capacities and greater operating ranges. Let your Thew-Lorain Distributor give you all the other reasons why you should buy Lorain.

This boiler weighs 9 tons. It is being transported from shop to yard storage by a 10-ton Lorain Self-Propelled Crane, model SP-110.

This 22½-ton Lorain Self-Propelled Crane transports and places a large boiler on a flat bed truck for shipping.



reliability in action . . .

**THE THEW
LORAIN**[®]

THE THEW SHOVEL CO., LORAIN, OHIO, U.S.A.

Circle No. 448 on Reader Service Card for more information



NEW EQUIPMENT SECTION

Euclid Division Announces Front-End Loader

Euclid Division of General Motors Corp. makes its first entry into the front-end loader field with the Model L-7. This loader has a rated payload capacity of 19 cu. ft., lifts a maximum load of 3,000 pounds. Euclid says the L-7 has been developed and tested in foundries, steel mills, chemical and fertilizer plants, and other industry. It is the first—and smallest—of several loader models to be built. The L-7 is equipped with torque converter and power shift transmission having synchronized non-stop high-low shift and speeds that range up to 11 mph forward or reverse. Manufacturer claims exceptional maneuverability for the loader, with a turning radius of 6' 2 1/2".

Circle 73 on Reader Service Card



Laminate This Film to Anything— Without Adhesives

Videne A, a special packaging film introduced by Goodyear Tire & Rubber Co., can be laminated without adhesives to any textile, metal, wood, paper or plastic. Only heat and pressure are needed for permanent adhesion. Goodyear claims the material has enough rigidity and dimensional stability to be run on commercial high speed, automatic packaging machines. It can be heat sealed and shrunk, up to as much as 50 percent of its original area. It is window-clear, and will not discolor or crack even outdoors. Decorative as well as protective surfaces are obtained by printing and/or embossing the film.

Circle 75 on Reader Service Card

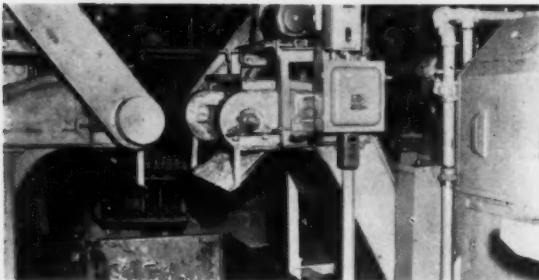
Battery Powered Sweeper

The Model 2436 Electrisweeper was designed by Wilshire Power Sweeper Co. Equipped with two 12-volt industrial type batteries with a minimum of 360 amp hours, the unit can sweep a full eight-hour shift without recharge, says the manufacturer. Its dust system has a high volume impeller type blower that delivers dust into a separator chamber, allowing the heavier dust to be dropped before reaching the 5 3/4 cu. ft. filter. The filter automatically empties at time the hopper is dumped, thereby avoiding removal of filter or air blow back for cleaning.

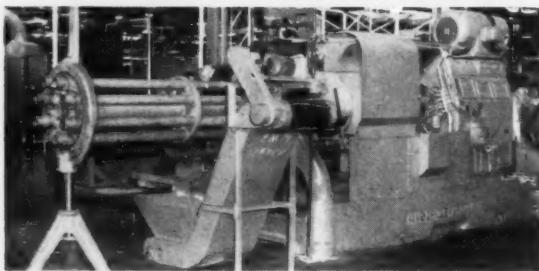
Circle 74 on Reader Service Card



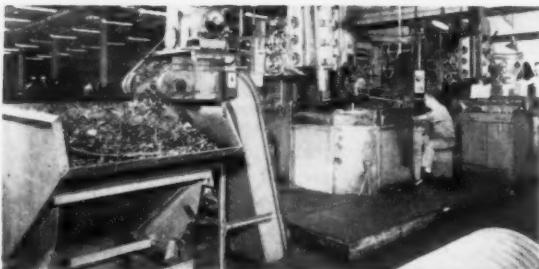
MAY-FRAN CHIP-TOTES



PROVIDE AUTOMATIC AND

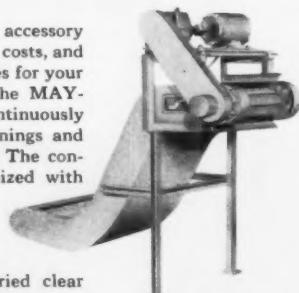


CONTINUOUS SCRAP REMOVAL



from almost every type and size of machine tool

Here is a machine tool accessory that will cut production costs, and permit longer "run" times for your automatic machines. The MAY-FRAN CHIP-TOTE continuously removes the chips, turnings and borings from machines. The conveyor can be synchronized with the metal removing capacity of the machine. Scrap is channeled onto the CHIP-TOTE belt, carried clear of the machine for discharge into tote box or carry-off conveyor system. There is a CHIP-TOTE for every machine tool.



For complete facts, write today and ask for MF-640.

7802-MF

MAY-FRAN

ENGINEERING, INC.

1611 Clarkstone Rd., Cleveland 12, Ohio



NEW EQUIPMENT SECTION

Truck Mast Folds Down

The Yale & Towne Manufacturing Co. has developed a method of folding back the mast assembly on the G-3 Series of 15,000 to 20,000 pound capacity gas industrial trucks.



This was done to facilitate the movement of the equipment from place to place, either on a carrier or under its own power. The fold-down feature reduces mast heights to from 118 inches for the 158 inch height models to 136 inches for the 206 inch. Accomplished with a standard automotive hydraulic jack and a kit consisting of two struts and two braces, the fold-down can be done in 30 minutes.

Circle 76 on Reader Service Card

Scraper Fights Loading Resistance

The CT Scraper is an 18-cubic yard unit used with tractors of 90 or more horsepower. A product of LeTourneau-Westinghouse Company, the machine features a clean smooth bowl interior for minimum resistance in loading and unloading. The CT's 9 1/2 foot, three-section blade is angled precisely with the floor

DILLON Dynamometer checking strength of joints between steel belt plates used in conveyors



MAKE SURE WITH A DILLON DYNAMOMETER



Precision Built

Compact, 5" dial model
measures only 8 1/4" x 6 1/4" x 3".
Weighs 8 lbs.
Fits into "tight" spots.

Accurate
Dependable

In actual field tests or in the lab., DILLON Dynamometers provide accurate test results. Measure static or moving loads instantly in conjunction with hoists, turnbuckles, air pistons, etc. 13 capacities from 0-500 lbs. up to 0-100,000 pounds. With max. pointer. WRITE FOR ILLUSTRATED LITERATURE AND FREE TENSILE STRENGTH COMPUTER.

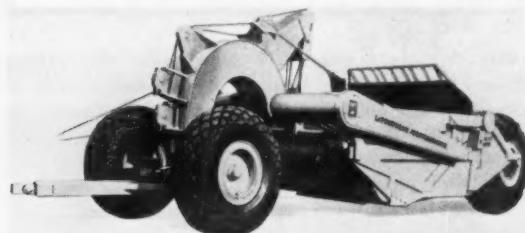
W. C. DILLON & CO., INC.

14568 Keswick St., Van Nuys 8, Calif.
(suburb of Los Angeles)

Circle 383 on Reader Service Card for more information
138

Circle 337 on Reader Service Card for more information
FLOW

to combat loading resistance, say company spokesmen. With only a two-degree floor tilt, the scraper



bottom remains nearly flat so that material does not have to travel uphill to get into the bowl.

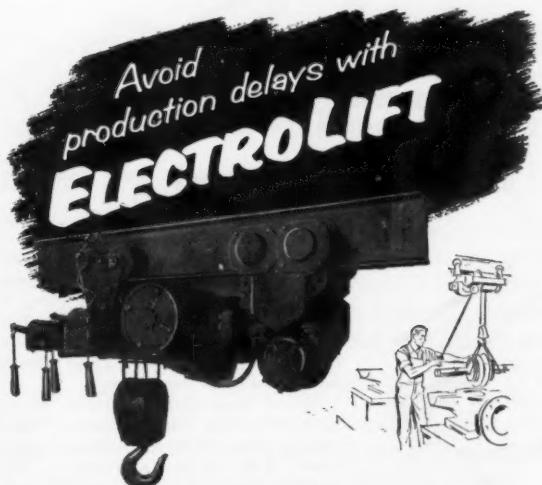
Circle 79 on Reader Service Card

Five-Point Outrigger System



The American Hoist & Derrick Company manufactures a 40 ton capacity truck crane that features a newly designed outrigger system. This system permits substantial weight reductions in the carrier while providing a solid, steady foundation at five points, claims the manufacturer. The outrigger center sections swing out from the carrier and are locked in place. These sections are slightly longer than ordinary.

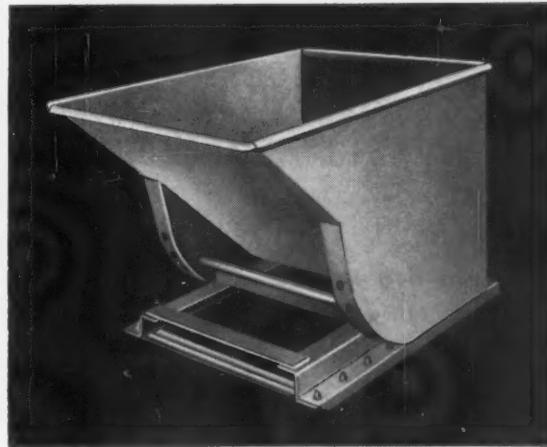
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Insist on the superior hoist performance and maximum reliability that ElectroLift worm-drive hoists can give you. Capacities from $\frac{1}{4}$ to 10 tons . . . minimum headroom required . . . superior braking . . . simple, rugged, and made with the best components and materials. Consult your local ElectroLift representative, or write for a complete catalog.



204 Sergeant Ave., Clifton, N. J.
Circle 341 on Reader Service Card for more information
APRIL, 1958



Model F1A Phil-Dump

Sturdy and Dependable for Dumping and Storing

Solidly built to take a beating when used with a platform or a fork lift truck, the F1A Phil-Dump saves time and money in the handling of a variety of bulk materials. This low-cost device dumps automatically and returns to upright locked position. It stacks easily and safely for storage either full or empty. Features are a non-slip fork slot in the pallet and a patented safety lock which prevents accidental dumping. Capacity is 1 cu. yd. Larger and smaller Phil-Dumps are available. Write for prices.



Write for information about
Salem-Brosius industrial trailers

SALEM-BROSIUS, INC.

13 Arch Street • Carnegie, Pa.

PHILLIPS MATERIALS-HANDLING EQUIPMENT

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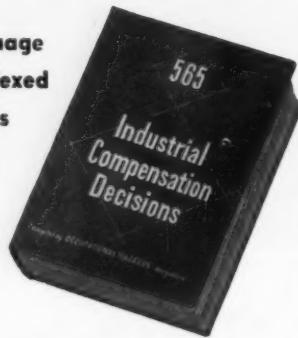
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AN INVALUABLE GUIDE TO WORKMEN'S COMPENSATION DECISIONS

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NEW EQUIPMENT SECTION

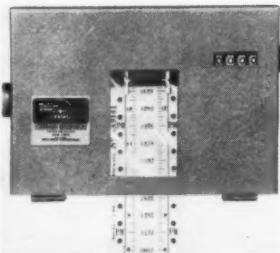
nary outriggers and are located under the rotating base of the machine, keeping over-the-side operations steady. Two outriggers at the rear and one at the front of the machine add up to the five-point foundation.

Circle 80 on Reader Service Card

Print-out Counter Monitors Machine Operation

Tally-Print, a precision control instrument produced by Standard Instrument Corporation, provides accurate print-out at predetermined intervals of elapsed time or number of units produced. The unit is electrically connected

to the machine or process to be monitored. A chronologically-marked chart roll is sprocket-driven through the instrument. At predetermined intervals, the total elapsed time or the total number of units monitored in that interval is printed on the tape. A visual cumulative total is provided for longer periods. Tally-Print is adaptable for monitoring any production



United States Steel Corporation - Pittsburgh
Columbus-Geneva Steel - San Francisco
Tennessee Coal & Iron - Fairfield, Alabama
United States Steel Export Company



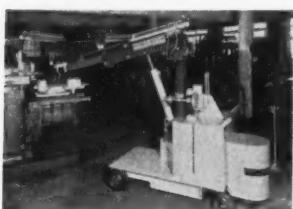
United States Steel

Circle No. 464 on Reader Service Card for more information

machinery, conveyor belt flow, office machine, cash register, printing equipment, automotive traffic, etc.

Circle 81 on Reader Service Card

Boom Truck Has Power Propulsion



Power propulsion is available on the battery-operated models of the Hydro-Boom. This boom truck is manufactured by Vanguard Engineering Co. The propulsion unit has a fluid coupling for smooth starts. The propulsion wheel carries no part of the load, assuring constant traction. The "Floating-Action" drive wheel is always in contact with the floor and is automatically self-compensating for uneven floors. Hydro-Boom's hook reaches up to 48 inches beyond the front of the truck. Capacity at maximum boom extension is 1500 pounds; with boom fully retracted, 2500 pounds.

Circle 82 on Reader Service Card

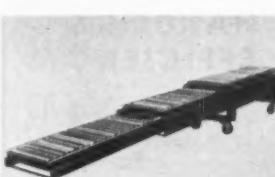
Small Parts Storage

Load Lugger racks (Model R-156) were designed by the McClintock Manufacturing Company to enable small parts to be stored loose yet accessible. In these units, the lugs slide into a series of runners and re-

main suspended by their rims, pulling out like a drawer for filling or withdrawing. Entire lugs may be slid out and exchanged for others.

Circle 83 on Reader Service Card

Cantilever Construction on Conveyor



Cantilever telescoping conveyors are manufactured by the Wilkie Company for loading and unloading vans and trucks. The conveyors are available in two or three telescoping cantilever sec-

tions. The first section rests on the floor dock or truck-bed and the telescoping sections are extended (the two-section model up to 18 feet, the three-section up to 30 feet). The cantilever construction is ideal for loading and unloading shorter vans and drop-frame trucks, states the manufacturer.

Circle 84 on Reader Service Card

Makes Pallets Maneuverable

Penco Engineering Company has announced the manufacture of two types of pallet rollers. A swivel type that will go in any direction, and turn about easily and quickly, has a 4000 pound capacity and consists of 10 large diameter rollers.

Circle 85 on Reader Service Card



17 FORK AND PLATFORM MODELS — TO 20,000 LBS.

Through 30 years of the toughest day-in day-out work (the concrete block industry), Erickson has truly proven itself to be "The Workhorse of Lift Trucks." Ruggedly built for long life and low operating cost. Perfect balance and big pneumatic tires give the Erickson wonderful traction. 4 speeds both forward and reverse.

The Erickson is "tailor-made" for your needs. You can order any fork lift or fork style desired; beds on platform trucks as you specify. Many attachments available.



Write for Erickson literature and prices.

Export Dept. Neuer, Wilton & Associates, Inc., 32 W. Randolph St. Chicago 1, Ill.

Manufactured by ERICKSON POWER LIFT TRUCKS, INC.
215 ST. ANTHONY BLVD. N. E. • MINNEAPOLIS 18, MINNESOTA



W SERIES — Compact, powerful, reliable! Four big pneumatic tires for fast, sure travel indoors and out. Rated capacities 2,000—3,000—4,000 lbs.—standard 108" lift—10" center underclearance.

Erickson KART-ALLS will pull train of trailers plus a load of freight. With ar-lic-u-la-ted pivot it's a delight to steer and handle for airports, terminals, warehouses, etc. Custom built to your requirements.

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SEALMASTER BALL BEARING UNITS

FOR
MATERIALS
HANDLING
EFFICIENCY!

Power
Sweepers

Conveyors
Cranes



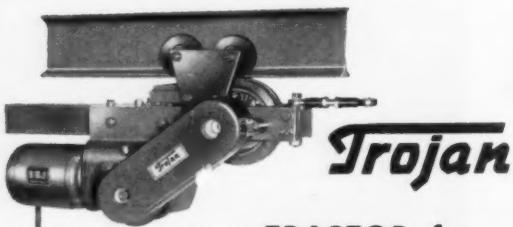
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Bulletin 454
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SEALMASTER

BALL BEARING UNITS

SEALMASTER'S exclusive combination of features assuring smooth top flight bearing performance are much in demand throughout the materials handling field. You'll want full information on these SEALMASTER features and their benefits for the equipment you manufacture or operate.

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POWER TRAVEL

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In Hundreds of Instances. Ask for Trojan
Tractor Bulletin 833

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142

NEW EQUIPMENT SECTION

Need a Dumper?

A hydraulically operated pivot dumper has been developed by Essex Conveyors, Inc., for dumping heavy loads where lifting is not required. The "Hydro-Dumper" can handle skid and pallet boxes, drums, barrels, and special in-plant containers with loads up to 4,000 pounds. All models are designed to customers' specifications. Loading may be done by hand or fork truck. The dumper is powered by 2 large hydraulic cylinders activated by an electric motor.



Circle 86 on Reader Service Card

Tote Trays Stack To Save Space

A stacking tote tray has been developed by the National Metal Edge Box Company. According to the manufacturer, its purpose is to simplify handling of small parts, both in production and storage. The ta-

Lift Jack and Semi-Live Skids-



... Make an ideal Low Cost
HANDLING SYSTEM

WHEELS
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METAL

ROUND TO BE OFFICE
Ironbound

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FLOW

pered box is made of heavy gauge kraft board and has built-in metal handles. It is greaseproof inside and out; the double ends are riveted to provide maximum strength. When empty, the trays can be nested to make neat stacking arrangements and conserve space.

Circle 89 on Reader Service Card

Bulk Handling Giant



A giant feeder has been designed and built by Stephens-Adamson Mfg. Co. This feeder is the type used to receive ore and stone from storage bins or hoppers and feed it to conveying and crushing facilities. This is a heavy duty machine consisting of a series of manganese steel pans, designed to carry ore short distances over horizontal or reasonably inclined planes. It will handle 550 tons of ore an hour. The feeder weighs 180,000 pounds, is 18 feet wide, 53 feet long and 11 feet high.

Circle 77 on Reader Service Card

Walkie Handles Dies

Dies weighing up to 7500 pounds can be handled by the electrically-powered Jackstacker. This truck was introduced by Lewis-Shepard Products to high-stack dies in storage, transport them, and place them directly in press beds. The truck's platform has a push-

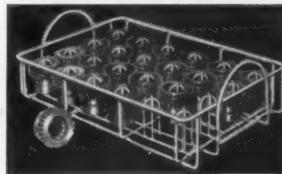
IT'S EXPENSIVE TO HANDLE PARTS ANY OLD WAY!



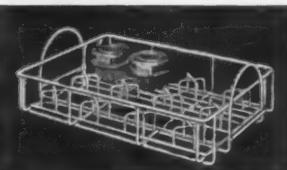
A large percentage of parts handled in makeshift equipment often ends up in the reject pile! You can eliminate damage and cut expensive rejects to a minimum with WIPCO Eezy-Stak baskets. Eezy-Staks protect parts in conveying, machining, washing, degreasing, assembly, storage and numerous other operations. In many cases, rejects due to handling are almost completely eliminated! Eezy-Staks will cut production costs in your plant too. Write today and let us know your parts handling requirements!

EEZY-STAK BASKETS

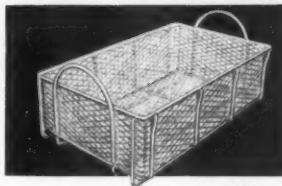
Speed Production, Reduce Rejects
CUT HANDLING COSTS



Individual compartments or racks are designed to accommodate any specific part for maximum protection in handling or storage.



All Eezy-Stak baskets have the patented "Interlock Handle," an exclusive design feature that permits easy, trouble-free stacking.



Standard Eezy-Staks, available in $\frac{1}{4}$ " or $\frac{1}{2}$ " flat expanded metal, are recommended where part segregation is not necessary.

WRITE TODAY FOR
BULLETIN B-54

SEND PART SAMPLES FOR
A PROMPT QUOTATION!



*Pat. No. 2646186

WIRE & IRON PRODUCTS, INC. 1720 Sixteenth St. Detroit 16, Mich.

CONVEYORIZED PACKAGING for Speed • Economy • Uniformity

Saves up to 70% of Handling Costs

REMOVABLE SLIDER BED AIDS SANITATION

NI-LO PACKAGING STATION

Power Belt Conveyor furnished standard 18"; 22"; 30" O.A. Widths with 12"; 16"; 24" belt widths. Length to suit. Used with gravity roller or wheel conveyors — NYLO-[®] Bearings.

Tell us your requirements. Our Recommendation is free.

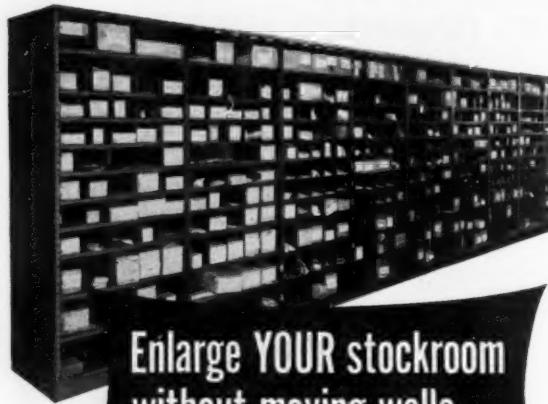
METZGAR CONVEYOR CO.

423 Douglas St., N. W.
GRAND RAPIDS 4, MICH.

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APRIL, 1958

Circle 435 on Reader Service Card for more information
143

Circle 453 on Reader Service Card for more information



Enlarge YOUR stockroom without moving walls

You can custom design storage facilities to suit your exact needs—with Equipto Steel Shelving Units. Eliminate "dead areas" and unnecessary bulk . . . enlarge your stocking area . . . accelerate stock handling.

Available in all sizes, either open or closed . . . dividers, panels, label holders, bin fronts, and drawer sections may be added or rearranged at any time. For further details on shelving and other Equipto products write for free 16 page booklet No. 256, "Short Cuts to Greater Profits."

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STEEL SHELVING . . . PARTS BINS
. . . LOCKERS . . . DRAWER UNITS . . . CARTS . . . WORK BENCHES.



• Used where two sections of power, belt, live roller or chain conveyor converge, the Ultimate Traffic Cop permits one case, can, carton or box to pass on one line while the other line is stopped by the arm. When flow of material ceases, or sufficient gap occurs on line, material on other line passes.

MAIL THIS COUPON



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Please send Bulletin TC-1 describing
the ULTIMATE TRAFFIC COP.

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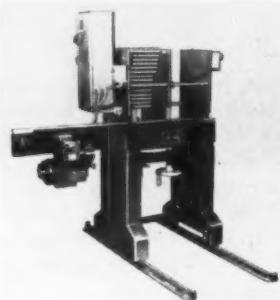
NEW EQUIPMENT SECTION

er-puller attachment by which dies can be pulled on or pushed off by throwing a switch. Horizontal stroke of the pusher-puller is 42 inches; platform elevation is 54 inches.

Circle 92 on Reader Service Card

Production Machine Loader

Production Feeder Corporation has designed a magazine loader for feeding long bars or tubing into centerless grinders, polishing machines, heat treating equipment, and other operations where parts are to be automatically fed in an end-to-end position. The Model 8000 loader is a completely self-contained unit ready for immediate installation at the machine to be fed. Parts are loaded into the unit's large capacity hopper, from which they are cycled by an automatic switch, escapement and agitator mechanism to a steel conveyor belt which delivers the parts to the production machine



Circle 93 on Reader Service Card

WIRE TAINER

the sensible, convenient way to handle Stock
STACKING FOLDING



OPEN BASE 1 & 2 TON CAPACITY

Write for circular and details

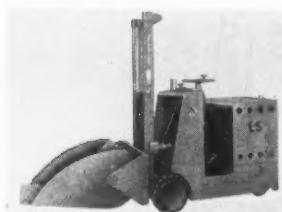
SPRINGPORT STEEL PRODUCTS CO.

SPRINGPORT, MICHIGAN

Circle 417 on Reader Service Card for more information

FLOW

Dump Bucket for Lift Trucks



Lewis-Shepard Products, Inc., offers hydraulic and mechanical dump bucket scoops as optional equipment on its complete line of electric fork trucks. The scoops can be used for bulk handling of chemicals, sand, coal, small castings, stampings, etc. Five or ten cubic foot capacities are available in the hydraulic scoop; maximum upward tilt is 30 degrees, maximum downward tilt is 45 degrees. Same capacities are offered in the mechanical scoop, but the upward tilt is 10 degrees. The recommended truck models for the dump bucket scoops are Models E, H and J rider-type, electrically-powered fork lift trucks.

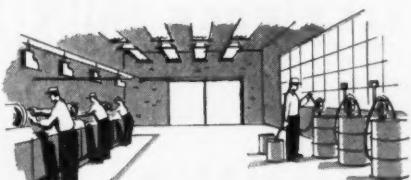
Circle 94 on Reader Service Card

Scale Feeder Is Complete Package



ABC Scale Division, McDowell Company, states that it will maintain feed accuracy to within one percent of a preset rate. The unit is a complete package in-

SAFER HANDLING of INDUSTRIAL LIQUIDS!



Eliminate in-plant accidents caused by slick floors and spilled inflammables! This TOKHEIM Hand Pump, for use on drums or skid-tanks, has 8' hose—or spout outlet—prevents dangerous, wasteful slopping of oils and many other liquids. Speeds production. Pumps 20 gallons per 100 strokes. Ask your dealer, or your Tokheim representative or write for list of liquids.



General Products Division

TOKHEIM CORPORATION

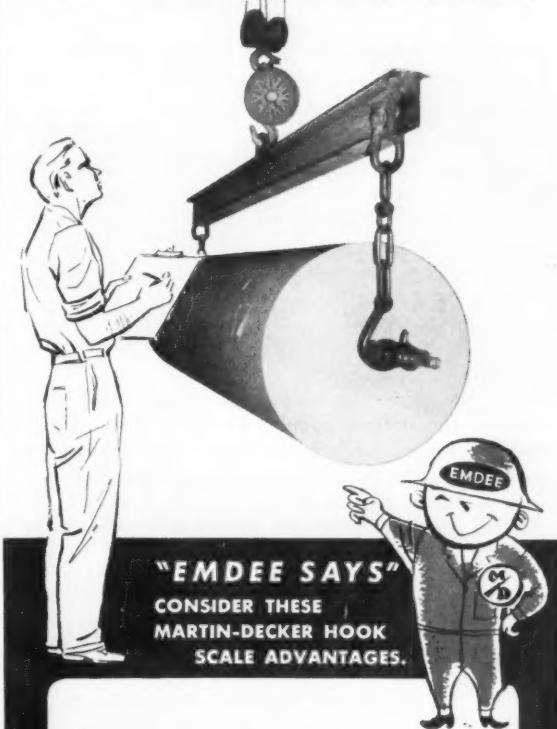
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT
1668 Wabash Avenue SINCE 1901 Fort Wayne 1, Ind.

Subsidiaries: Tokheim N.V., Leiden, Holland—GenPro, Inc., Shelbyville, Ind.
Factory Branch: 475 Ninth Street, San Francisco 3, California
In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto, Ont.

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APRIL, 1958

The MARTIN-DECKER Sensater Hook Scale

WORKS WITHOUT FRICTION
AND WITH CERTIFIED ACCURACY!



"EMDEE SAYS"
CONSIDER THESE
MARTIN-DECKER HOOK
SCALE ADVANTAGES.

EASY HANDLING—Light weight and Compact. Full 360° Hook Rotation permits swiveling in any direction.

MORE CONVENIENT—Manual Tare Adjustment zeros-out grabs, hooks, chains, tote boxes, etc. Minimum Headroom Loss.

EASY READING—Adjustable Gauge can be tilted up or down. Dual Range Dial provides accurate distant and close reading. Entire Dial Circumference Calibrated for precise readability.

SAFER—Five-to-one safety factor allows ample overload margin. **LOWER IN COST**—Averages lower in price than hook scales of comparable capacities.

FOR FURTHER INFORMATION WRITE TO

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3431 CHERRY AVE., LONG BEACH 7, CALIF. DEPT. N-23



MARTIN-DECKER CORP.
HOME OF THE WEIGHT INDICATOR

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NEW EQUIPMENT SECTION

stallation, ready to be bolted into a conveyor line. Built from standard components, it consists of a powered conveyor section, mounted on a jig-welded structural steel frame; belting; idle and power rollers; and totalizing scale.

Circle 95 on Reader Service Card

Truck Is Adaptable to Towing and Dragline

SI Handling Systems (a division of Safety Industries, Inc.) has designed a trailer for use with either a towing tractor or an in-floor dragline system. Heavy duty, light-weight fabricated steel automatic couplers are provided at both ends of the trailer for hooking up to tractor and other trailers. The in-floor coupler for dragline service is designed for release by pedal from either side of the trailer. The unit features angle iron construction for deck strength, engineered placement of wheels for tracking ability, and quality casters and wheels with pressure lubricated bearings.

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Now... MUCH MORE

Quality engineered features include:

- Patented leak-proof hydraulics
- 4-1/3" lift in three strokes
- Side thrust-free ram
- No-drop handle
- Self-leveling steering wheels
- Pallet entry rollers
- Sectional steel forks
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for only \$358

Capacities: 2200, 3500, and 4400 lbs.
Choice of steel, aluminum, rubber, nylon, or vulkollan wheels.



Write for complete information

STOKVIS • EDERA & CO., inc.

Dept. No. P4F, 18 Secatoag Ave., Port Washington, N. Y.

Circle 468 on Reader Service Card for more information

146

Big Truck Adds Power

Hyster Co. has made a 154 hp V8 engine with matching torque converter optional equipment on its all-weather lift trucks in the 15,000 to 20,000 pound capacity. The larger engine and torque converter transmission give the truck added power in rough yards or where snow, mud or sand make traction difficult, according to the company. The Chrysler engine produces a maximum torque of 237 lb. ft. at 2400 rpm. Transmission has three speeds forward and reverse; engine power is automatically adjusted to these travel requirements through the torque converter.



Circle 97 on Reader Service Card

Low Overhead Worker

Models TG-45 and TG-50 industrial towing tractors have been added to the Allis-Chalmers Manufacturing Company equipment line. Both models feature low profiles and compactness for use in areas where overhead



SAVE UP TO 50% FLOOR SPACE WITH FLEXIRACK ADJUSTABILITY



MFG. BY **Hartman** METAL FABRICATORS, INC.
133 MURRAY STREET ROCHESTER 6, N. Y.

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FLOW

clearance is limited (such as working around and under airplanes). The tractors are available with Allis-Chalmers gasoline, diesel, or LP-gas engines that develop 74 brake horsepower and 170 ft. lb. torque at 1200 rpm. They give the units a pulling capacity of 90 to 100 tons on level surfaces.

Circle 98 on Reader Service Card

Ball Point Marker Works on Any Surface



An easy-to-use ball point tube contains special fast-drying ink that makes lasting marks on metal, wood, plastic and glass. The marker is produced by John P. Nissen, Jr. Co. The ink is opaque and heat resistant, and comes in green, yellow, blue, orange, black, red, brown or white. It will not chip, fade, peel or rub off. The tube itself is 6 inches long by 1 inch wide. Ball points are available in thicknesses of 3/16, 1/8, or 5/64 inch.

Circle 99 on Reader Service Card

Get Behind the Clean-Up!

The Model 40 walk-behind power sweeper weighs 275 pounds and is only 33 inches wide—it can go through standard size doorways. The G. H. Tennant

Move Greater Pay Loads . . . Faster, Safer With Money Saving



... Saves Man Hours And Dock Space

Here's the low cost answer to positioning any highway carrier to proper dock height when it is impossible to use dock leveling ramps because of construction or space limitation. This 40,000 lb.-capacity hydraulic truck leveling device has 24" up-down travel and features: Low Initial, Installation and Operating Cost • Short Amortization Period • Rugged Construction for Long-Life Service • Minimum Maintenance • Exceptional Ease of Operation.

Planning service available without cost or obligation.

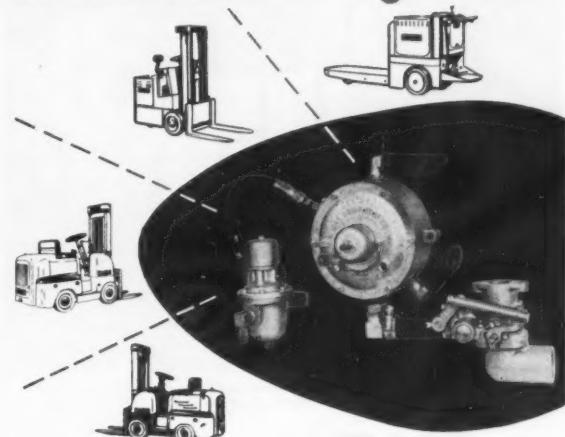
ROWE METHODS, INC.

2534-C DETROIT AVE.

CLEVELAND 13, OHIO

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APRIL, 1958

Lift Trucks and LP-Gas work better together!



with Century Carburetion



For Every Lift Truck (regardless of make or model) there is a Century "Power Package" designed to its requirements . . . calibrated to its engine performance curve . . . balanced to its economy and horsepower requirements . . . and compactly sized for easy installation in confined space.

Century "progressive jet" carburetion, a product of Borg-Warner, employs the exclusive Century metering valve system for better fuel-air control. You get instant starting, perfect idling and full power under any conditions.



When you convert to LP-Gas, follow the lead of the big manufacturers—specify Century LP-Gas Carburetion. Write for literature today.



Smallest unit sizes—Century units are small, light and compact—smallest in envelope size for their horsepower rating.



Fewest number of parts—There are only three major units to a Century carburetion system.



Easiest to install—Small, compact, Century systems require only tune-up adjustment. There are no bleed lines or idle lines.



CENTURY GAS EQUIPMENT, Marvel-Schebler Products Division
Borg-Warner Corporation, 625 Southside Drive, Decatur, Illinois
Export Sales: Sin Par Automotive Div., Singer Products Co., 15 Moore St., New York 4, N.Y.
Circle 465 on Reader Service Card for more information

TOUCH and GO!

Materials Handling



Two versatile, power-propelled Walkie-Worklifters handle a variety of transporting and stacking chores at the Minneapolis-Honeywell plant in Morton Grove, Ill.

Walkie Worklifter

Up and away—quickly, safely—even on lightly rated floors and elevators, and in narrow aisles. Compact Walkie-Worklifters are ideally suited to *touch and go* transporting and stacking jobs because they are designed specifically for such intermittent use. Anyone can operate a Walkie-Worklifter; a single push-button in the steering handle controls forward and reverse travel. The brake is applied automatically when the operator releases the steering handle or pulls it forward to braking position. Push button lift control is on a 12 foot extension cord with Reelite cord holder, for control of load from the floor; or, the operator may ride up with the load when filling orders or checking stock.

Mast, battery compartment and drive unit add only 30" to load length. The short base, combined with 180° turning radius permits right angle stacking in aisles as narrow as 66" with 36" x 36" pallets. Heavy duty diesel type battery and built-in selenium rectifier charger are furnished as standard equipment. Capacity range is 1000 lbs. to 2000 lbs., based on 18" load center. 120 standard models include lifting heights up to 120" and base widths up to 57".

Walkie trucks transport and stack loads in light floor areas and move inter-floor on limited capacity elevators. They save time—recover their low initial cost in months. Operating cost is small—a few cents per day to re-charge the batteries.

TYPICAL USER EXPERIENCES

"... has serviced us well, savings all along the line; time, manpower, etc." Frank Gilchrist, Cullen Company, Chicago.

"... loading drums on to freight cars saves us a half day for each car for two men and a truck." Paul Angell, Pres., Newly Weds Baking Co., Chicago.

"We are very pleased with our Walkie-Worklifter... a big help in material handling in our warehouse." Henry Solomon, Lion Knitting Mills Co., Cleveland.

Write for current Lift Truck bulletin or refer to your Sweet's Engineering File 1A-EC. Our local representative will be glad to discuss this unique truck with you at your convenience.

ECONOMY ENGINEERING

4524 W. Lake St., Chicago 24, Ill.

Circle 339 on Reader Service Card for more information

NEW EQUIPMENT SECTION

Company developed this machine with a high-speed 11-inch fan to suck light dirt and dust into a 1900 sq. in. fabric bag. Heavy litter, picked up by the main brush, is thrown into a removable hopper. The main brush is "full-floating" . . . follows floor contours and has a pressure adjustment for heavy soiling areas. Accessories are available for transforming the sweeper into a floor maintenance machine.

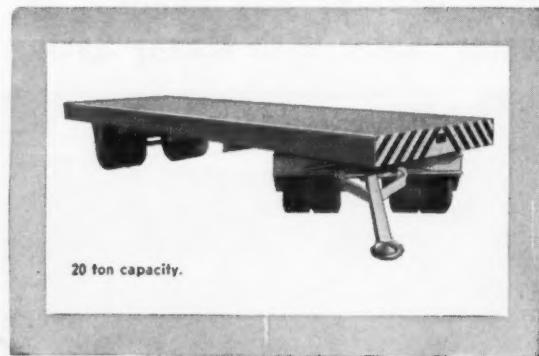
Circle 100 on Reader Service Card

Automatic Taping for Mixed Box Sizes

The Boxize Tape-O-Matic delivers tape automatically without readjustment on lines where box sizes vary. Each box measures its own correct tape length, and the electric dispenser delivers just this length, in a position ready for quick manual application. The unit is designed by Better Packages, Inc. The manufacturer claims it will quickly pay for itself in labor and material savings.



Circle 101 on Reader Service Card



Industrial TRUCKS and TRAILERS

"Ohio" Trucks and Trailers—in various sizes and capacities—meet many material handling requirements, in different industries. Both standard and specially-designed units offer you sturdy construction, and long, continuous service at minimum cost.

Contact "Ohio" today for free literature and complete details.

THE OHIO GALVANIZING & MFG. CO.
NILES

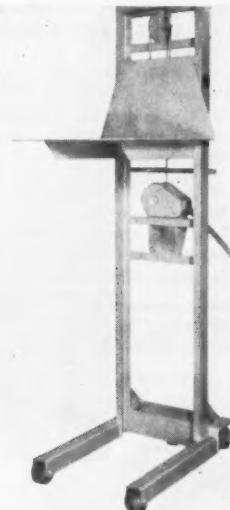
Established 1902

OHIO

Circle 399 on Reader Service Card for more information

Mechanical Lifter

A crank-operated mechanical lifter has a 1,000 pound capacity. A product of the Colson Corp., this one piece all-steel welded unit



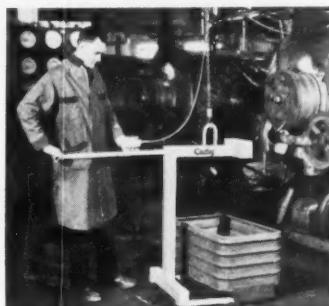
has a vertical lift of 69 inches from floor level and a lowered height of 4½ inches. It has an overall height of 79¾ inches. A newly designed cable winch allows a 27-pound handle effort at full

load. Lifting speed is 1½ inches per handle revolution. A foot-operated floor lock between the swivel wheels positions the unit firmly during loading and unloading.

Circle 102 on Reader Service Card

For Safe Handling of Hot Material

The Pallet Lifter is manufactured by Cady Metal Fabricating Inc. It is designed with a three-foot extension handle to provide



safe handling of hot material. (In the illustration it is handling hot chain from a heat-treating furnace.) The Lifter operates from an overhead hoist; the handle

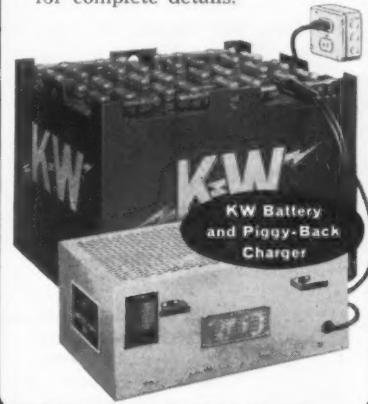
Would a Piggy-Back ride interest you?



We think it would, not as the illustration above shows, but in KW's Piggy-Back Battery Charger for your lift trucks.

It's the greatest production time saver ever! Keeps your trucks rolling round the clock and your production deliveries on the spot, when they are needed. The Piggy-Back Charger pays for itself in a short time by eliminating drained batteries.

We invite you to investigate and profit with this proven time saver. Write today for complete details.



CRES-COR® MOBILITE equipment moves more materials



70, 58, 42 & 36 inches high

STORAGE RACKS

all aluminum—mobile—speed trips in and out of storage—carry more payload—cut costs, save time and labor. With light, medium, or heavy duty casters—Be our guest! Order one for a free 30-day trial.

Write for more information. A-33



ALUMINUM MAGNESIUM STAINLESS
CRES-COR metal products, inc.
10001 E. CLAIR AVENUE CLEVELAND 18, OHIO
Division of Crescent Metal Products, Inc., Cleveland, Ohio. Manufactures metal products for the food processing industry.

Circle 331 on Reader Service Card
APRIL, 1958

New London PARTS CONVEYOR

A PRODUCTION PARTNER IN ANY PLANT



Husky, electric motor drive. 4" to 24" Neoprene cleated belts or wire mesh belts for horizontal or incline operation. Easily handles parts and some bulk materials. Adjustable, detachable undercarriage. Write for complete information on our entire line of low cost, quality conveyors . . . or name of nearest representative.

NEW LONDON ENGINEERING CO.

PHONE 424
NEW LONDON • DEPT. F • WISCONSIN

Circle 397 on Reader Service Card

BATTERY COMPANY
SKOKIE K-W ILLINOIS

Quality Industrial Batteries . . .
Originators of the Piggy-Back Charger

Circle 368 on Reader Service Card



G-W FLOWMASTER

**feeds
elevates
conveys**

Free running material moves quickly and efficiently through the Flowmaster on horizontal, inclined, or vertical planes in a substantially continuous stream.

A rugged endless chain moves a series of solid steel flights through a closely fitted casing that is totally enclosed, dust-proof and gas-tight (if necessary). Designed for continuous or intermittent operation, the Flowmaster is also self-loading to the proper capacity and self-discharging — which allows it to replace separate units for feeding and elevating.

Flowmasters are highly versatile and operate in a minimum space.

Mail the coupon below for your free copy of G-W's Idea Book on Materials Handling plus details on the Flowmaster.

GIFFORD-WOOD CO. HUDSON, N.Y.

Branches in
New York, Cleveland, Chicago, St. Louis

Makers of Conveying Systems and Equipment • Ice Handling Equipment
• Commercial Kitchen Machinery
• Eppenbach Homogenizers and Colloid Mills

4647



GIFFORD-WOOD CO. Hudson, New York

Please send me complete information on the Flowmaster, plus G-W's big "Idea Book" on materials handling.

Name _____
Company _____
Address _____
City _____ Zone _____ State _____

Circle 353 on Reader Service Card

150

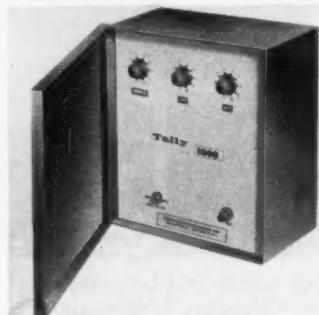
NEW EQUIPMENT SECTION

provides easy guiding under skids. The Pallet Lifter is manufactured in standard and custom models in a wide range of capacities.

Circle 103 on Reader Service Card

For Counting Operations

The Tally "1000" is a pre-determined counter manufactured by hobson Miller Machinery Corp. It is used for positive counting in



such operations as packaging, batching, cutting of specific lengths, controlling sequential operations, etc. The unit may be actuated by photo-electric control, micro-switch, impact switch, limit switch, pressure switch, flow motor, or any type of single pole, single throw switching device. The Tally "1000" may be used to control motors, heavy duty solenoids, relays, conveyors, filling machines, printing presses, choppers, shears, valves, kickers and markers, plus many other devices that are required for a particular application.

Circle 104 on Reader Service Card

For Tire Handling

The Power Loader is a truck-mounted crane designed by Day-



brook Hydraulic Div., L. A. Young Spring & Wire Corporation. It

NEW CONCEPT OF SAFETY

AND STABILITY IN BALLYMORE Safety-Step LADDERS

SECURE FEELING OF WORKERS RESULTS IN BETTER, FASTER WORK

The new pyramid design of BALLYMORE Safety-Step LADDERS offers above-floor working safety never before available. Thirty-five models offer work levels up to fifteen feet.

→ Write to the Ballymore Company, West Chester 5, Pa., for the new 20-page catalog. Describes complete line of Ballymore equipment for above-floor working safety.

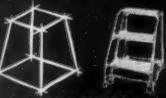
MANY MODELS TO CHOOSE FROM

STEEL OR ALUMINUM



Three-step, "A" type

REVOLUTIONARY PYRAMID DESIGN GIVES ADDS SAFETY



PYRAMIDIZED FOR SAFETY



Seven-step, Handrails



CHOICE OF WIDTHS
20" or 30" at bottom
CHOICE OF HEIGHTS
One to seven steps, steel. One to five steps, aluminum.

BALLYMORE "Hi-boy" SAFETY-STEP LADDERS with BALLYLOCK

Step on the pedal, two legs and non-swiveling rear casters hold ladder firmly in place while in use. Release pedal, ladder rolls easily to location of next job.



Eight-step, work levels up to twelve feet.

TOP PRODUCTION WITH SAFE, CONVENIENT WORK PLATFORMS AND HYDRAULIC LIFTS



Fixed and adjustable-level work platforms and mobile access lifts available in many sizes. Special platforms and lifts designed to fulfill specific requirements.

BALLYMORE

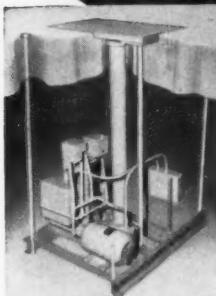
EQUIPMENT
FOR ABOVE-FLOOR
WORKING SAFETY



THE
STANDARD
BY WHICH
ABOVE-FLOOR
SAFETY
IS JUDGED

Circle 319 on Reader Service Card
FLOW

You, too, may benefit
with **Weld-Bilt**
HYDRAULIC
LIFT TABLES
like these



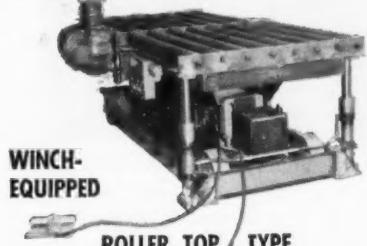
THRU-THE-FLOOR TYPE

Suspended below the floor, with platform top at floor level — lifts skidloads to machine level for effortless production.



RECESSED-CENTER TYPE

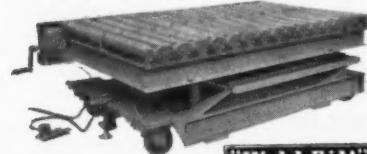
Affords flexibility in handling steel sheets of varying widths. Raises sheets to press height without manual lifting.



WINCH-EQUIPPED

ROLLER TOP TYPE

Motor Driven Winch moves heavy dies on or off presses on free-running rollers. Raised and lowered by two-way foot pedal control.



"LIVE" ROLLER TYPE

"Weld-Bilt" PRODUCTS

Handles multiple stacks of steel sheets. Rollers operated through hand crank and chain, moves stacks to machine position. Lift is controlled through two-way foot pedal.

Your plant, too, may have many moving, lifting, or production feeding operations that may be more profitably done with WELD-BILT HYDRAULIC LIFT TABLES. Write, outlining your need. We'll be glad to suggest an economical solution.

Weld-Bilt Vertical Floor to Floor Transportation Systems — Lift Trucks — Portable Elevators — Automatic Elevators.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS

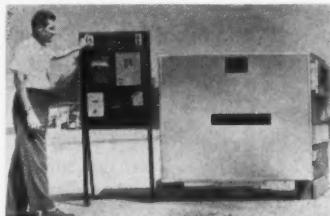
335 WATER STREET • WEST BEND, WIS.
Circle 434 on Reader Service Card
APRIL, 1958

was developed for use by tire manufacturers or contractors to maneuver tires for repair. A special hydraulic jib on the 4,000 pound capacity unit not only provides lifting power but also may be used to nudge huge tires on or off rims. On-the-spot tire repairs can be made, or the crane can lift the tires onto the truck platform to be taken to a central repair location.

Circle 105 on Reader Service Card

Packaged Air Pollution Control System

Type EW-51 Catalytic Oxidation Unit is a packaged air pollution control system. Developed by



Oxy-Catalyst, Inc., the unit is used to oxidize odorous solvent fumes, varnish vapors and other objectional effluents in the exhaust gases of wire coating ovens. The EW-51 can be used on almost all electrically-heated vertical wire coating ovens and, with minor adaptations, on most gas-fired ovens. Completely assembled at the factory, the unit is shipped ready to install on top of the oven by the customer. It will oxidize up to five-and-a-half gallons of solvent an hour.

Circle 106 on Reader Service Card

Yard Handler for Tractors

Anthony Company produces a Yard Handling Equipment Unit for use on wheeled or track type



tractors. The boom is made in lengths from 12 to 16 feet, can

Magcoa / Tobey
aluminum
Trucks



Light-weight
and fast

NO maintenance



Strong

**easy to start,
push and steer**

- ✓ Cuts handling costs
- ✓ Easier to push and steer
- ✓ Exclusive casters — **fully guaranteed**
- ✓ Riveted, flexible bed construction
- ✓ Entire truck is maintenance-free
- ✓ Safe — non-sparking, non-magnetic
- ✓ Available in many styles and types



For full details
use the coupon below.

**MAGNESIUM COMPANY
OF AMERICA TOBEY ALUMINUM DIV.**

magcoa

East Chicago 1, Indiana

Representatives in principal cities

Please send Magcoa/Tobey Data File

Name and Title _____

Company _____

Address _____

City-Zone-State _____

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Circle 380 on Reader Service Card

Circle No. 373 on Reader Service Card for more information



Hydro-Electric LIFT TRUCKS
For the Heavy Load • For the Light Load • For the Unusual Load

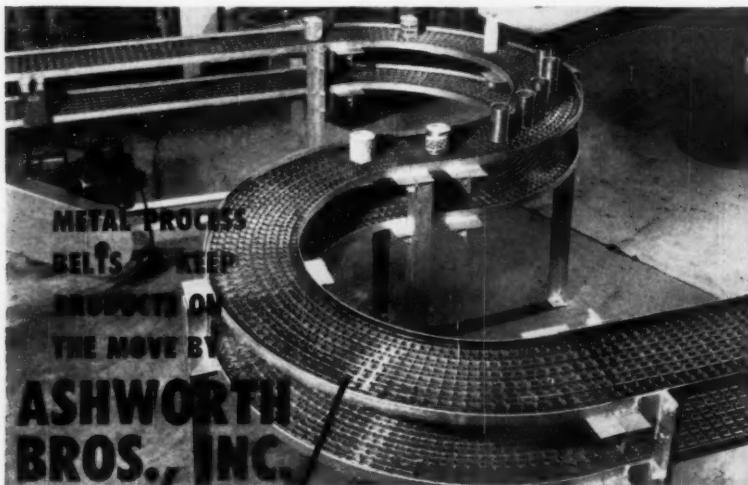
Look over the models illustrated. Some one of these trucks is adaptable to your needs. Whether you want to pull—push—carry or lift there is a model for every possible use. The many fleets of HYDRO-ELECTRICS today carry products of every kind, shape and description are convincing evidence of their unusual application.

Write today for FREE Catalog No. 35 featuring complete line of Lift Trucks.

LIFT TRUCKS INCORPORATED
2423-31 SPRING GROVE AVE.
CINCINNATI 14, OHIO

NEW **OMNI-LEX® BELT** **by ASHWORTH**

Let your production move around corners on the new, low cost Omniplex belt. Short turning radius • light weight • easily installed • low maintenance factor



WINCHESTER, VIRGINIA

SALES ENGINEERS:

Circle No. 317 on Reader Service Card for more information

NEW EQUIPMENT SECTION

lift 5,000 pounds. Adjustable guy lines permit lengthening the boom to any elevation and spotting loads. A hydraulic cylinder provides topping power for the boom. The tractor on which the unit is mounted is stabilized by four heavy-duty, side-mounted, valve-controlled, double acting hydraulic outriggers. The hydraulic pump that operates the unit has a capacity of 24 gallons a minute. It is driven by a transmission power takeoff.

Circle 107 on Reader Service Card

All-Purpose Sweeper

The Hydra-Sweep "51" is an all-purpose power floor sweeper. Manufactured by the Industrial Sweeper Co., it is designed for use



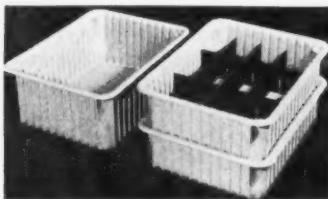
in medium to large manufacturing plants, shopping centers, parking areas and airports. The unit is equipped with one adjustable side broom that enables it to sweep aisles from 36 inches to 51 inches wide. An additional side broom is available, bringing total sweeping width to 66 inches. At speeds up to eight mph the "51" can sweep over 100,000 sq. ft. of floor space an hour. Manufacturer states that the full-floating brooms clean all types of floors and surfaces from wood block to black top.

Circle 108 on Reader Service Card

Tote Box Has Adjustable Compartments

Precision parts may be handled easily with the Modubox tote boxes designed by Hollywood Plastic Arts. Parts are separated by adjustable dividers. These are

inserted into ribbed wall indentations to make separate compartments from 1" square to the en-

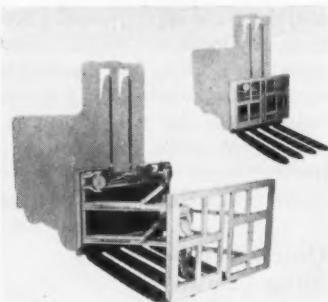


tire box size. Moduboxes are made of U. S. Royalite, an acid and oil resistant rubber base plastic. They are available in over 60 standard sizes and depths, or may be custom-made to specifications.

Circle 109 on Reader Service Card

Lift Truck Attachment Pushes Load

The "load push" is a truck attachment manufactured by Cascade Manufacturing Co. Activated



by hydraulic cylinders, the unit can be mounted on a side shift carriage. The "load push" is basically designed for 4,000 pound trucks, but can be mounted on larger capacity trucks, depending on application. The manufacturer states that the attachment is ideal for car and truck loading, warehouse distribution, bulk material moving, etc.

Circle 110 on Reader Service Card

For Vacuum Lifting

Vac-U-Mation Division, F. J. Littell Machine Co., has introduced a new model in the heavy-duty series of vacuum lifts. The No. 12651 is a self-contained power tilt, 4-cup lifter with a 2,000 pound capacity. The power tilt allows the cups to automatically rotate to vertical or horizontal positions, eliminating maneuvering by operation. This unit

MATERIALS HANDLING

EQUIPMENT

FOR

EVERY NEED



PLATFORM TRUCKS



HAND TRUCKS
Over 50 models and styles.



TRAIN TRAILERS
Models and couplers for rider type, remote control, radio directed, and tow-line operations.



LANSING, MICHIGAN

BE SAFE —
BE SURE —
SPECIFY LANCO

84



TS
DOCK
LEVLER
Speeds LOADING
OPERATIONS —
Cuts Loading Costs!

Loading or unloading gets under way quickly and safely with the Full Floating, Self-Adjusting DOCKLEVLER . . . No loose plates to handle . . . no motors . . . no controls and no dock attendant is required. Simple counterbalanced design eliminates complicated mechanisms requiring constant and costly maintenance. The DOCK-LEVLER is available in Recessed Models, Package and Semi-Package Units . . . 6' x 6', 6' x 8' and 6' x 10'. All 20,000 lbs. capacity. All-welded, rugged steel construction. Write for full details and name of your local distributor.

TS EQUIPMENT COMPANY
968 Austin Avenue, ALBION, MICH.

Circle 419 on Reader Service Card



70, 58, 42 & 36 inches high

Utility Cabinets—mobile closed storage—prevents pilferage—protects product—easily loaded on and off trucks.

Corrugated sides for universal spacing—angle sides for heavy duty storage.

Be our guest—Order one for a free 30-day trial.

Write for more information. A-33



ALUMINUM MAGNESIUM STAINLESS
CRES-COR metal products, inc.
19901 ST. CLAIR AVENUE
Cleveland 14, Ohio
Manufacturers of corrugated-wall, multiple-pier, aluminum, steel, metal equipment

Circle 332 on Reader Service Card

153

Circle No. 322 on Reader Service Card for more information

new!
Bond
52-A Series

SWIVEL CASTER

**... It's Easy Swiveling,
Sturdy for Dependable Service,
Economically Priced**

Sound in design, solid in construction—that's the new Bond 52-A Series Double Ball Race Pressed Steel Swivel Caster. The upper coined work-hardened ball race carries the load and absorbs side thrust while the lower ball race balances the load and absorbs thrust. A steel sleeve fits over the axle and is held rigidly between the fork members to add strength, to give a larger bearing surface and to prevent wear on the axle. The axle locks into the leg of the fork to keep it from turning. Pressure lubrication is standard on all Bond 52-A Series casters with 4-inch wheels and larger.

Write, wire or phone today for full information on the new economically priced Bond 52-A Series Double Ball Race Pressed Steel Swivel Caster. It's another important product of the Bond built-for-the-job materials handling line.



New Bond 52-A Series is available with 2 1/2, 3, 4, 5 and 6-inch wheels of semi-steel, solid rubber, vulcanized-on compounds and Bond-celon. Individual load capacities range from 85 through 600 pounds.

Heavy-duty 52-AH Series
This alternate series to the 52-A has case-hardened ball races—a 20% greater load carrying capacity.



FOUNDRY & MACHINE COMPANY
MANHEIM, PENNSYLVANIA



CY BELT says

**"I can eliminate 'time lag'
and speed production!"**

Too often material in process can go only so far, and then must wait until somebody carries or pushes it to the next stage in the production line. The delay caused by the need for manual handling can frequently be eliminated by a complete conveyor system that reduces manual handling to the absolute minimum. Time is saved, unit costs are reduced, and the profit margin is widened. A trained Cyclone salesman can analyze your present materials-handling system to uncover time-wasting procedures, and suggest improvements. His analysis costs nothing, and his recommendation will be tailored to your plant and your needs. Just fill in the coupon.

Prompt service to belt users is assured by two factories, one in the Middle West and one on the Pacific Coast.

USS Cyclone Metal Conveyor Belts

Spiral Woven • Flat Wire • Flex-Grid

Cyclone Fence Dept.

American Steel & Wire

Division of

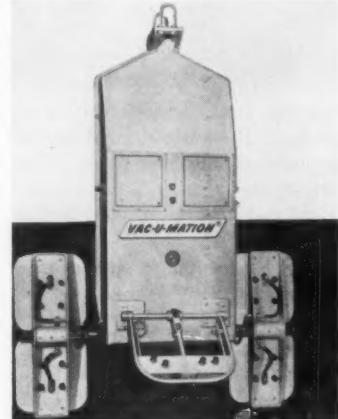
USS United States Steel

United States Steel Export Company, New York

Circle No. 333 on Reader Service Card for more information

NEW EQUIPMENT SECTION

is crane suspended, designed for sheet handling. Its power and control units are built into a crane mounting housing from which two



dual lifting aluminum web feet or cup arms extend. Each of the four cups has a capacity of 500 pounds. Operation of these cup arms for rotary or horizontal movement is provided by a power transmission assembly (gear reducer, spur gears, Keller air motor).

Circle 111 on Reader Service Card

Quick Service for Sling Chains

The American Chain Division, American Chain & Cable Co., Inc., has developed the Kuplex sling



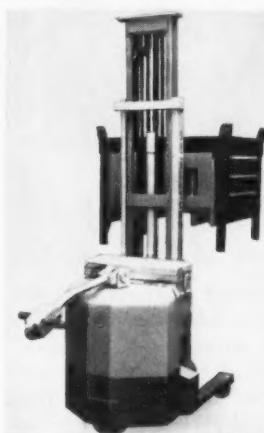
chain to aid sling maintenance and repair. Basic components of this sling chain consist of an Accoloy shaped master link; a Kupler assembly consisting of load pin and fluted stainless steel drive pin; any determined length

of Accoloy chain; and an Accoloy Kuplex sling hook or grab hook. Components are available from distributors' stock and can be easily assembled.

Circle 112 on Reader Service Card

Fork Lift Truck from West Germany

Eastern Lift Truck Import Co. handles distribution of the Sichel-



schmidt electric-powered load-lifters with a complete line of models operating on a 24-volt electric

system. Included are rider-type fork lift trucks and walkie-type lift trucks. The walkie illustrated is a 3,000 capacity unit with three forward and reverse speeds. Hydraulic lift is controlled by button on the steering handle. A safety valve protects the hydraulic system against overload.

Circle 480 on Reader Service Card

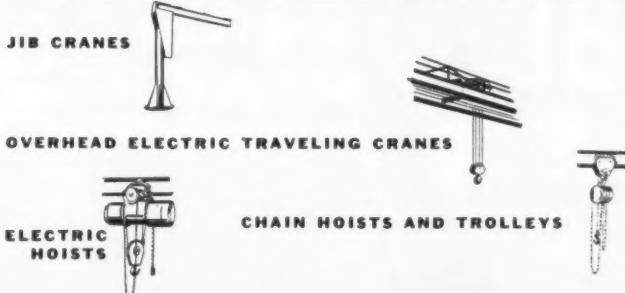
Fiberglass Tray

A conveyor assembly tray that is molded in one piece from Fiberglass reinforced polyester resin



has been developed by G. B. Lewis Company. The material itself has many properties besides light weight and strength that make it practical for use on the assembly line, states the company. It does not rust and resists oil, grease, water and most chemicals.

Circle 114 on Reader Service Card



CONCO



HAND GEARED CRANES



WRITE for Bulletin 5000A
covering Conco Cranes and
Hoists.



CONCO ENGINEERING WORKS

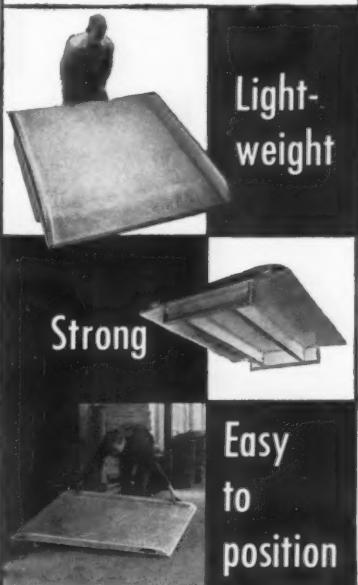
Division of H. D. Conkey & Company, Mendota 38, Ill.

AFFILIATE:
Conco Building Products, Inc.—Brick, Tile, Stone

See Our Catalog: Sweet's Industrial Construction File

Circle No. 478 on Reader Service Card for more information
APRIL, 1958

Magcoa magnesium Dockboards



end congestion... speed loading!

- ✓ Light enough for one man to position
- ✓ In seconds a Magcoa Dockboard is in place . . . ready to use
- ✓ Quickly locks into place—no slippage, no shifting
- ✓ Portable, easy to re-locate
- ✓ Non-slip tread allows safe, full-speed loading
- ✓ Lightest weight—yet durable and strong
- ✓ Engineered to your dock requirements

For full details
use the coupon below.

MAGNESIUM COMPANY

OF AMERICA Materials Handling Div.



East Chicago 1, Indiana

Representatives in principal cities

Please send special Dockboard Facts File

Name and Title _____

Company _____

Address _____

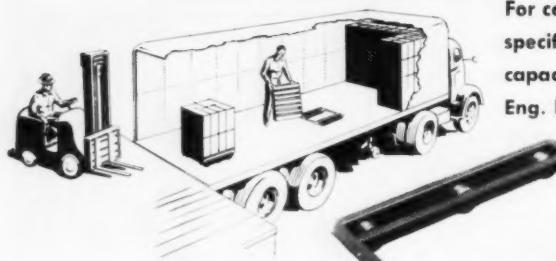
City-Zone-State _____

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Circle 379 on Reader Service Card

Circle No. 301 on Reader Service Card for more information

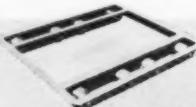


STEVEDORE KING PALLET ROLLERS

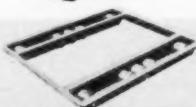


For complete
specifications, sizes,
capacities, etc., write for
Eng. Bulletin 102K.

Distributorships Available



ACE SWIVEL KING



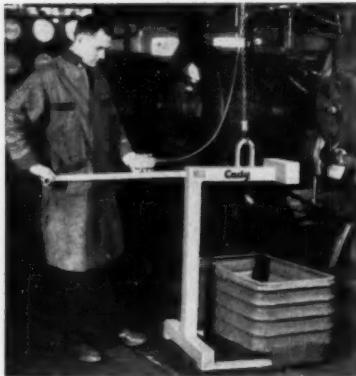
ACE REEFER KING

ACE ENGINEERING ASSOCIATES INC.

FORMERLY FRANK L. ROBINSON CO.

INDUSTRIAL ENGINEERS • MANUFACTURERS • DISTRIBUTORS

3901 GRAND AVENUE • OAKLAND 10, CALIFORNIA



CADY PALLET LIFTER LICKS HOT HANDLING JOB

► Handling hot chain from heat treat furnaces to quench pits is made easy for Columbus McKinnon Chain Corporation with this Cady Pallet Lifter with extension handle.

This lifter serves two banks of furnaces and replaces fork truck for other uses. Cady Pallet Lifters are saving money for foremost industries everywhere by making fork lifts out of cranes and hoists. Only 1/10th the price of fork trucks. Complete range of capacities for handling pallet loads, containers, skids, sheets and unit loads of practically any nature.

Write or phone Jackson 4145 for complete information, application guide and prices.

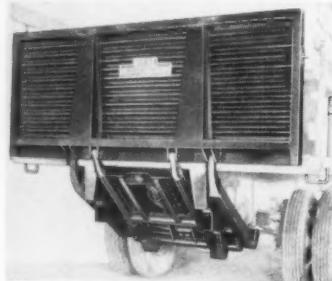
CADY METAL FABRICATING CO.
78 Schenck Street N. Tonawanda, N. Y.

Circle 458 on Reader Service Card
156

NEW EQUIPMENT SECTION

Hydraulic Tailgate Has Corrugated Platform

A hydraulic elevating tailgate, the Heiloader, is manufactured by the Heil Co. It features a corrugated, high tensile steel, "bridge-



built" welded platform designed for rigidity and light weight. This platform eliminates "deck-sag" and makes for easier loading and unloading, it is claimed. For greater lifting capacity, a 4,000 pound capacity Heiloader is available.

Circle 118 on Reader Service Card

The **BECO**
Super Lift
LEVER DOLLY

- Why Pay More!
- Guaranteed
- Stronger
- Safer

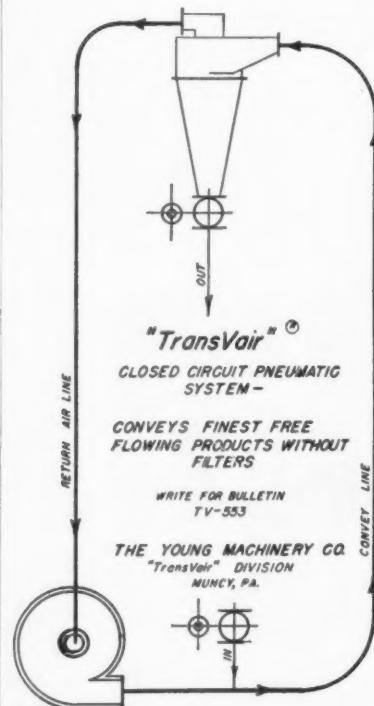
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BECO - Bettendorf, Iowa

Four Models • Metal or Rubber Wheels
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FLOW

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Rates: for "Positions Wanted" \$8.00 minimum, limit 25 words. For all other classifications \$10.00 minimum for 25 words; each additional word 25c. Boldface type or all caps, \$12.00 minimum for 25 words, each additional word 35c. Box address counts as five words. All insertions payable in advance.

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Baker Traveloader. 6 ft. forks. Lift Height 12 ft. 10,000 lb. capacity. Torque converter drive—power steering. Can be licensed in any state for highway travel with full load. One year old. For sale—cash or lease purchase. Holgate Brothers Co., Kane, Pa.

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2 NEW SHOP WORN TL-6 TRACTOMOTIVE SHOVELS EACH—\$3,900
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ALL 3 MACHINES \$10,700
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Phone: PRospect 1-0292

Used fireless steam locomotive built by H. K. Porter Co. in 1950. Class B-H-1, 100,000 pounds operating weight, standard gauge—56 1/2". Tractive effort 15,300 pounds at 60 p.s.i. mean effective steam pressure. Contact: Mr. K. M. Miller, Rohm & Haas Co., 222 W. Washington Square, Philadelphia 5, Pa.

POSITION WANTED

Former manufacturer's agent, five years experience general materials handling sales, trucks, conveyors, hoists, wheels, etc. desires relocation Seattle, San Francisco, or New England. Excellent sales record. Thoroughly familiar with planning, application and quotation on all types of handling equipment. Write c/o FLOW, Box 4158.

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All territories open on complete line

of nationally advertised BFC steel shelving, parts bins, 2-wheel hand trucks, box trucks, shop carts, work benches, stools and material handling products. Commission basis, excellent potential. Send full details on your type operation. Write President Bernard Franklin Corp., 2900 E. Hedley St., Phila. 37, Pa., JEfferson 3-4500.

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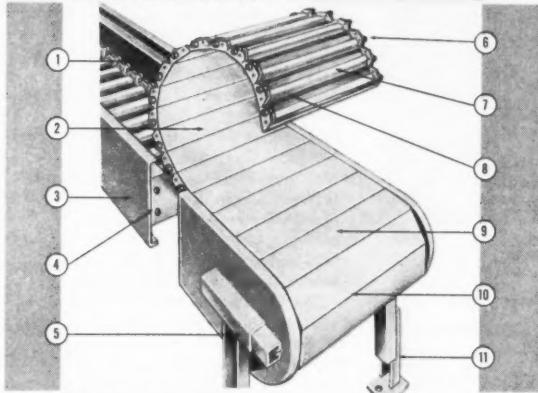
With or without facilities to carry inventory for major European conveyor belt line. Attractively priced. High quality and quick delivery assured. Please indicate territory covered and present lines. Write c/o FLOW, Box 4258.

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Wanted by a well established nationally known manufacturer of Package Conveyors and related packaging equipment, including Unscramblers, Accumulating Tables, Bottle Conveyors, etc. Send complete details of lines presently carried, major accounts, territory and experience. Areas now open include Louisiana, Mississippi, Alabama, Georgia and South Carolina. Exclusive arrangement if you qualify. Write c/o FLOW, Box 4358.

ARMORBELT*

the durable belt conveyor with many
SUPERIOR FEATURES



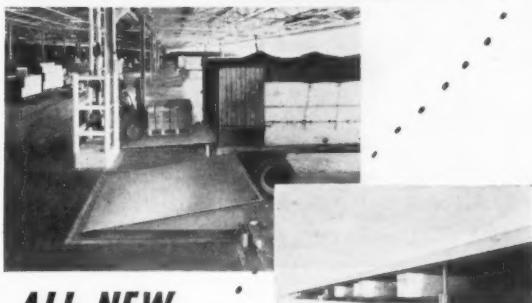
- 1—Sturdy one piece frame in 10' sections with upper and lower tracks, spreader and braces. Completely assembled.
- 2—Smooth vertical curves for 1 piece multilevel conveyors.
- 3—Fully enclosed sides for cleanliness, appearance and safety.
- 4—Accurate joints for rapid assembly.
- 5—Automatic takeup—ideal for ovens.
- 6—Wide ball bearing rollers with hardened steel treads for low horsepower, long life.
- 7—Reinforced slot for high capacity, low weight.
- 8—Belt assembles rapidly without tools. Most efficient belt joint known. Stronger than chain.
- 9—Smooth zinc coated belt. No stretch. No tracking problem.
- 10—Joints stay tight even on bends.
- 11—Adjustable legs with lag pads on 10' centers for rapid installation.

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APRIL, 1958

*Your MATERIALS HANDLING
SYSTEM is COMPLETE with.*



48 HI-LO Automatic Dockboards
at Ford Motor Co. Pool Car Terminal, Detroit, Michigan.

HI-LO
Automatic
DOCKBOARDS

COMPLETELY
AUTOMATIC

The truck supplies the power . . . no dock attendant needed, no buttons, valves, or controls.

Send for Bulletins and Factual Information TODAY!

FULLY AUTOMATIC DOCKBOARDS

FIRST COST IS
LAST COST

Simple counterweight system . . . no air, electric, or hydraulic power . . . built to outlive the dock.

RECESSED
AND PACKAGED
MODELS

In lengths to solve all loading problems . . . for new or existing docks.

KELLEY COMPANY, INC.

2117 W. MILL Road • Milwaukee 9, Wis.

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Farquhar

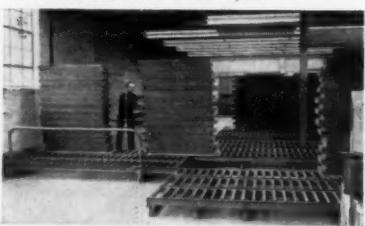
CONVEYORS

...move it faster
for less cost

▼ For moving cartons, boxes,
pans, bags, bundles, etc....



Cartons move quickly from receiving area to store-room on this line made up of Farquhar Gravity and Model 536 Power Belt Conveyors.



Boxboard moves from warehouse to live storage on this simple and inexpensive Farquhar Roller Type Gravity Conveyor line.

▼ For moving bulk materials...



Tons of bulk materials move from receiving area to the plant over this Farquhar Car Unloader and Bulk Conveyor system.

▲ Beat rising costs
with Farquhar Conveyors.

A. B. FARQUHAR DIVISION
The Oliver Corporation
Conveyor Dept. A-06, York, Penna.
Factory Branch: 618 W. Elm St., Chicago 10, Ill.

Please send me...

- Bulletin on "How to Plan and Install Your Own Conveying System"
- Bulletin on Farquhar Roll-Free Gravity Conveyors
- Bulletin on Ve-Be-Veyor Aluminum Power Belt Conveyor
- Bulletin on Farquhar Bulk Handling Conveyors

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Company _____
Address _____
City _____ State _____

Write or send this coupon

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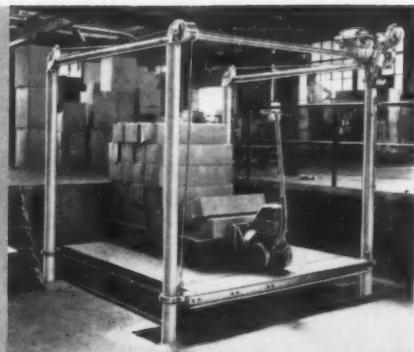
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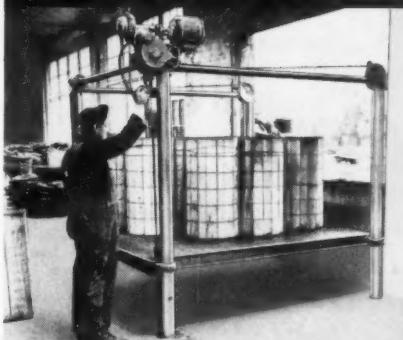
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ELIMINATE
COSTLY RAMP
CONSTRUCTION
THAT STEALS
VALUABLE SPACE

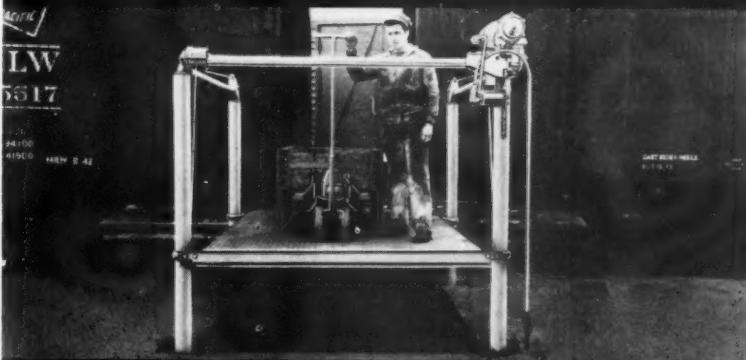


ELIMINATE THE NEED



SAVE TIME,
MONEY
AND STEP UP
EFFICIENCY

FOR RAMP and DOCK



with a COLSON LEVELER

Throughout industry, the Colson Leveler provides an economical solution to keeping materials on the move without complex footings, sub-surface installations and costly dock arrangements. Equipped with casters it becomes completely portable.

When serving two floor levels, it eliminates space-wasting ramps that drain electric truck batteries and create laborious bottlenecks for hand-pushed carriers. It's an effective, weatherproof adjustable dock designed for loading and unloading safely, gently and efficiently . . .

For loads from 2,000 to 20,000 pounds . . . for both stationary and portable applications use Colson Levelers to save time, labor and money. Send for special catalog InW-21.



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COLSON
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Special Products
Division
Somerville, Mass.

The Colson Corporation

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Plants in: Jonesboro, Ark., Elyria, Ohio,
Somerville, Mass., and Toronto, Canada

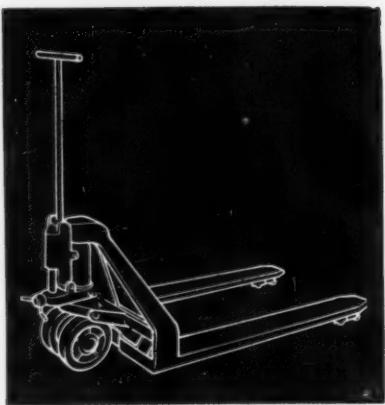
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★ 4,600 POUNDS
CAPACITY

PALITON

★ FULL FIVE-INCH
LIFT

HYDRAULIC HAND PALLET TRUCK



THREE STROKES OF HANDLE
LIFT PALLET FREE OF FLOOR

MADE IN ENGLAND BY
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- ★ LIGHT WEIGHT FOR EASY
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75%
LOADING TIME
& LABOR WITH
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MODEL 1560 RFW

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WRITE FOR LITERATURE

JAKES FOUNDRY COMPANY

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Coming or going . . .

MAGLINER DOCK BOARDS

Improve any dock operation

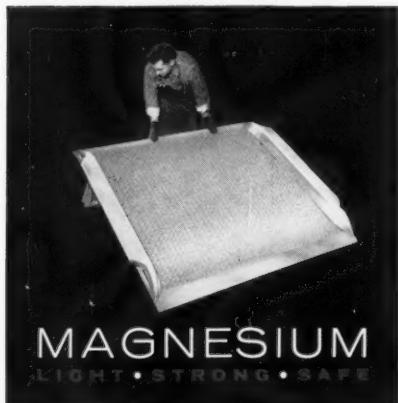
Loading Costs Too High? Chances are a difficult truck or rail dock problem is preventing smooth, efficient loading and unloading. Maybe your dock is too narrow, too congested . . . your men are hampered by the lack of proper space for loads and equipment. Or maybe your operation is slowed down by awkward height differences from

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And here's why!

Magliners are engineered to meet the specific requirements of your dock and operating conditions. Made of magnesium for easy one-man handling, Magliners are light, strong and safe. They're

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Please send me my copy of "How to Cut Dock Loading Costs."

Check here
for information on:

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	<input type="checkbox"/>	Permanent-Type Dock Boards
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COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

MAGLINE INC., BOX 14, PINCONNING, MICHIGAN

Canadian Factory: Magline of Canada, Ltd., Renfrew, Ontario

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